State of Wyoming

Department of Health

Annual Report on Cancer in Wyoming - 2002

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Cancer in Wyoming - 2002

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Executive Summary

Cancer rates in Wyoming remained relatively unchanged from 2001 to 2002, and are still lower than comparable national rates. Incidence for all cancer sites combined for Wyoming were down in 2002 to 419.7 per 100,000 population compared to the 2001 national rate of 468.0 per 100,000 population. Mortality for all sites for Wyoming in 2002 was also down from the previous year to 175.0 per 100,000 population, which is also lower than the 2001 national rate of 193.3 per 100,000. Only the incidence rate for males for all cancer sites was significanlty different (lower) than the national rate. No individual cancer site was significantly higher than national rates for incidence or mortality for males, females, or total population (males+females).

By using a 3-year average instead of single year data to track changes over time, the trends for most cancers flattened out somewhat. However, some rates including all sites, urinary bladder, female breast, leukemia, non-Hodgkin lymphoma, ovary, prostate, thyroid, and uterine suggest a possible increase. Still others (colorectal, melanoma, and pancreas) show the beginning of a possible decrease from previous years.

Four of the top five cancer sites for incidence were the same as the previous year: prostate, female breast, lung/bronchus, and colorectal. Non-Hodgkin lymphoma has replaced melanoma as the fifth most common cancer in the state. The most common cancer for incidence by age groups were brain/CNS (5-9 years), Hodgkin (15-19 years), brain/CNS (20-24 years), melanoma (25-29 years), breast (30-59 years), prostate (60-79 years), and colorectal (80-85+ years).

The top five cancer sites for mortality were lung/bronchus, colorectal, ill-defined, prostate, and breast. The most common cancer for mortality, in all age groups with more than one cancer death (35-85+ years), was lung cancer.

INTRODUCTION

Cancer

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells. If the spread of abnormal cells is not controlled, death can result. Many cancers are preventable and many can be cured if detected and treated early.

Causes of Cancer

Cancer is caused by both environmental and internal factors. Environmental causes include exposures to chemicals, radiation, or viruses, as well as exposures associated with life-styles (e.g., smoking, diet, and alcohol consumption). Internal causes include hormone levels, immune status, and inherited conditions. Causal factors may act together or in sequence to start or promote cancer. Ten or more years often pass between carcinogenic exposures and detectable cancer.

Prevention

Avoiding potential exposures such as tobacco use, severe sun exposure, and excessive dietary fat may prevent the onset or promotion of cancer. Also, increasing beneficial practices such as eating five servings of fruit or vegetables every day may help to prevent cancer. Early detection and treatment of cancer through established screening practices such as mammography and prostate specific antigen (PSA) improves the survival rates and decreases mortality.

Wyoming Cancer Surveillance Program

Cancer is a reportable disease in Wyoming. State statute requires that physicians, hospitals and laboratories report all cases of cancer they diagnose or treat in Wyoming to the Cancer Surveillance Program (WCSP), which serves as the state's central cancer registry. The purpose of the registry is to gather data to determine cancer incidence, mortality, treatment, and survival in Wyoming. Through special interstate agreements, information on Wyoming residents diagnosed or treated in other states is included in the program's database.

Insuring accurate data is one of the most important roles of the cancer registry. The WCSP established procedures for both automated and manual methods of checking the quality of data. The data is stored in the Rocky Mountain Cancer Data Systems software which has a built-in system to immediately check data when a new case is entered into the database. A Certified Tumor Registrar reviews each case submitted for accuracy and completenss in compliance with data collection standards from the National Program of Central Cancer Registries and the American College of Surgeons.

The data is used by a variety of medical professionals and others concerned about cancer. Within the State Department of Health, the data is used to monitor early detection, to determine year-to-year trends that develop, and to determine how Wyoming compares to the rest of the nation. The Department of Health also uses the data to plan and evaluate the effectiveness of its cancer control programs such as the Breast and Cervical Cancer Early Detection Program. Outside of the Department of Health, the data is used by physicians, hospital administrators, legislators, nonprofit organizations, and the general public. If you have a concern about cancer and would like more information about cancer in your community, please feel free to call the Wyoming Cancer Surveillance Program's Epidemiologist at 307-777-7951. Written correspondence should be addressed to 6101 Yellowstone Rd., Suite 259A, Cheyenne, WY 82002. You may also visit our web site at: http://wdhfs.state.wy.us/cancer.

METHODOLOGY and DEFINITIONS

Data Sources

Incidence

Definition -- Incidence is defined as the number of *new* cases diagnosed during a set time period in a defined population. Incidence is not a representation of risk. The defined time period for this report is 2002 except for the 12-year incidence trend, which used 3-year averages (e.g., 96-98 for 1997 and 97-99 for 1998). The defined population was the state of Wyoming, counties, and Cancer Health Districts (CHD) (see page 13).

Wyoming Data -- The Wyoming Cancer Surveillance Program (WCSP) gathers data on Wyoming residents diagnosed and treated for invasive and in situ tumors. The data is sent to the program's registry by every hospital in the state. Data is also collected from pathology laboratories, clinics, and physician offices throughout the state. The registry has several data exchange agreements with other state registries to enable collection of data on Wyoming residents diagnosed and/or treated outside of Wyoming. Wyoming data for this report includes 2002 cancer cases of Wyoming residents received by WCSP as of August 1, 2003.

National Data -- The National Cancer Institute (NCI) updates cancer statistics annually in a publication called the SEER Cancer Review, also available on SEER STAT, an interactive CD-ROM. NCI monitors cancer statistics to assess progress and to identify population subgroups and geographic areas where cancer control efforts need to be concentrated. Cancer incidence rates are calculated using SEER (Surveillance, Epidemiology, and End Results) software. WCSP used SEER*STAT for this report. **The national SEER rates presented in this report were calculated using 2001 data for whites.** See Appendix A for reference source.

Mortality

Definition -- Mortality is defined as the number of persons who have died during a set time period in a defined population. The time period for this report is the calendar year 2002 for Wyoming rates. The defined population is the state of Wyoming, counties, and Cancer Health Districts (see page 13).

Wyoming Data -- Mortality data was derived from death certificates filed with Wyoming Vital Records Services. By state statute, the certification of the cause of death on the death certificate is completed by the attending physician or by the coroner with the assistance of a physician. Although a number of medical conditions may be listed on the certificate, statistics presented here are based solely on the underlying cause of death. This is defined as the disease or injury that initiated the sequence of events leading directly to death or as the circumstances of the accident or violence that produced the fatal injury. The underlying cause is selected and classified based upon the regulations of the World Health Organization.

National Data -- The National Center for Health Statistics (NCHS), a division of the Centers for Disease Control and Prevention, provides statistical information including the number of cancer deaths in the United States. United States cancer mortality data is available from SEER STAT, an interactive CD-ROM. WCSP used SEER STAT for this report. **The national SEER rates presented in this report were calculated using 2001 data for whites.** See Appendix A for reference source.

Population

Wyoming Data -- Population estimates for Wyoming state and counties were obtained from SEER STAT at http://seer.cancer.gov. These estimates represent a modification of the annual time series of July 1 county population estimates by age, sex, race, and Hispanic origin produced by the US Census Bureau's Population Estimates Program, with support from the National Cancer Institute through an interagency agreement. Because NCI cancer rates are calculated by dividing the number of cancer cases by a census-generated denominator, rates can be heavily influenced by changes or uncertainties in census counts.

Rates

Age-Adjusted Incidence Rates

Incidence rates include 2001 invasive cases of Wyoming residents, except for bladder cancer which also includes in situ cases. Incidence rates presented are calculated for total cases and separately for males and females. The incidence rates are age-adjusted to the 2000 U.S. standard population using 5-year age groups, and are per 100,000 population. Age-adjustment allows rates to be compared over different time frames and allows rates from one geographic area to be compared with rates from another geographic area that may have differences in age distributions. Any observed differences in age-adjusted incidence rates are not due to differing age structures.

In conformity with the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program guidelines, the incidence rates excluded the following:

- in situ cases
- basal and squamous cell skins
- cases with unknown age
- cases with unknown gender

Age-Adjusted Mortality Rates

Mortality rates presented are calculated for total cases and separately for males and females. The mortality rates are age-adjusted to the 2000 U.S. standard population using 5-year age groups, and are per 100,000 population. Age-adjustment allows rates to be compared over different time frames and allows rates from one geographic area to be compared with rates from another geographic area that may have differences in age distributions. Any observed differences in age-adjusted incidence rates are not due to differing age structures.

Age-Specific Incidence Rates

An age-specific rate is the rate of cancer found within a certain age group. Age-specific incidence rates were calculated using 5-year age groups and total population (both sexes combined). They are reported per 100,000 population.

Statistical Significance

Z-Statistic

A Z-statistic is used to compare two different rates. This is called "The Difference Between Two Population Proportions." Statistical significance was found if the calculated Z-statistic was found to be greater than 1.65. This provides the equivalence of a 95% confidence interval (see below) and is indicated in the report as "statistically significant," "statistically," or "significant." The formula used can be found in most statistics books or by calling the WCSP Epidemiologist at (307)777-8654.

Confidence Intervals

A confidence interval is a way of telling how confident we are in the accuracy of a cancer rate. For example, we will often say that the rate of cancer in an area is 130 per 100,000 people and that the confidence interval is 120 to 140 per 100,000. This means that even though we calculated the rate at 130 per 100,000, we would feel better talking about the rate as being between 120 and 140 per 100,000.

Confidence intervals are also used as another way to test statistical significance. If the confidence intervals of two different rates overlap one another, then there is no difference between the two rates. However, if the confidence intervals do not overlap one another then there is statistical significance. This is indicated in the report as "statistically significant," "statistically," or "significant."

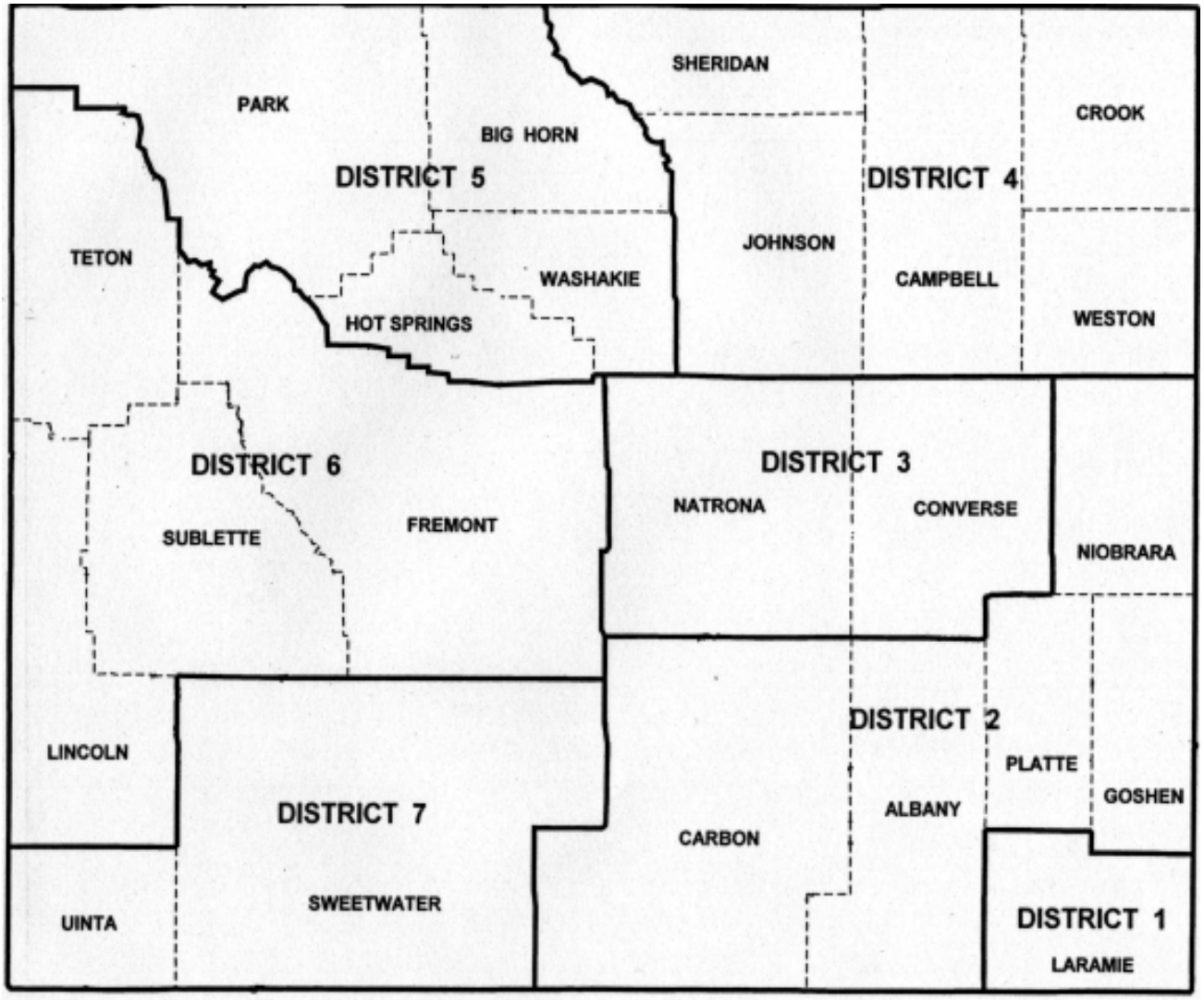
Staging

Distant Stage	direct extension beyond adjacent organs or tissues or metastases to distant site(s) or distant lymph nodes.
Early Stage	includes In Situ and Local Stage cases.
Invasive	cancer has infiltrated surrounding tissue.
In Situ	cancer has not invaded the organ.
Late Stage	includes Regional Stage and Distant Stage cases.
Local Stage	cancer has invaded the organ of origin.
Regional Stage	cancer has invaded beyond the organ of origin by direct extension to adjacent organs/ tissues and/or regional lymph nodes.

Cancer Health District

Cancer Health Districts (CHD) were chosen based on geographic location, similarities in geography such as frontier vs. rural, and by total population size. Also taken into consideration were areas of the state that are routinely grouped for data requests and/or cancer cluster studies. This created seven CHDs that were similar in population size thereby eliminating some of the discrepancies in rate calculations that are caused from population size differences. CHDs are used when county data is too sparse to calculate accurate rates.

CHD 1 Laramie County
CHD 2 Albany County, Carbon County, Goshen County, Niobrara County, Platte County
CHD 3 Converse County, Natrona County
CHD 4 Campbell County, Crook County, Johnson County, Sheridan County, Weston County
CHD 5 Big Horn County, Hot Springs County, Park County, Washakie County
CHD 6 Fremont County, Lincoln County, Sublette County, Teton County
CHD 7 Sweetwater County, Uinta County



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Cancer Incidence and Mortality by Gender and Age (All Sites)
Cancer Incidence and Mortality by Race and Ethnicity (Top 15 Sites)

Wyoming Incidence[1] for 2002: Cases by Gender and Age (All Sites)

	Male	Female	Total	00-04	05-09	10-14	15-19	20-24	25-29	30-34
Anus	0	7	7	0	0	0	0	0	0	0
Bladder	102	27	129	0	0	0	0	0	0	0
Bones and Joints	4	3	7	0	0	0	0	1	0	0
Brain/CNS	23	10	33	3	4	0	0	3	1	2
Breast	2	332	334	0	0	0	0	0	3	3
Cervix	0	19	19	0	0	0	0	0	0	1
Colorectal	101	116	217	0	0	0	0	0	0	1
Esophagus	21	12	33	0	0	0	0	0	0	1
Eye	1	1	2	0	0	0	0	0	0	0
Gallbladder	1	2	3	0	0	0	0	0	0	0
Hodgkin	4	6	10	0	0	0	3	3	0	1
Ill-Defined	33	40	73	0	0	0	0	0	1	0
Kidney	22	19	41	0	0	0	0	0	0	0
Larynx	10	7	17	0	0	0	0	0	0	0
Leukemia	36	22	58	0	2	0	0	2	2	2
Liver	10	2	12	0	0	0	0	0	0	0
Lung	132	111	243	0	0	0	0	0	0	0
Melanoma	40	36	76	0	0	0	1	3	4	2
Myeloma	16	5	21	0	0	0	0	0	0	0
Nasal	1	0	1	0	0	0	0	0	0	1
Non-Hodgkin Lymphoma	45	39	84	0	1	0	1	1	0	1
Oral Cavity	27	15	42	0	0	0	0	0	0	0
Other Biliary	6	5	11	0	0	0	0	0	0	0
Other Digestive	4	2	6	0	0	0	0	0	1	0
Other Endocrine including Thymus	3	1	4	0	0	0	0	0	0	0
Other Female	0	6	6	0	0	0	0	0	0	0
Other Male	2	0	2	0	0	0	0	0	0	0
Other Skin	5	2	7	0	0	0	0	0	0	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0
Other Urinary	5	1	6	0	0	0	0	0	0	0
Ovary	0	37	37	0	0	0	0	0	0	0
Pancreas	20	15	35	0	0	0	0	0	0	0
Prostate	390	0	390	0	0	0	0	0	0	0
Small Intestine	4	2	6	0	0	0	0	0	0	0
Soft Tissue including Heart	5	3	8	0	0	0	0	1	0	0
Stomach	17	2	19	0	0	0	0	0	0	0
Testis	15	0	15	0	0	0	1	2	1	3
Thyroid	8	35	43	0	0	0	0	3	1	3
Uterine	0	54	54	0	0	0	0	0	0	0
Mesothelioma	8	1	9	0	0	0	0	0	0	0
All sites	1,123	997	2,120	3	7	0	6	19	14	21

[1]See page 10 for a definition of incidence.

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Anus	0	0	0	0	2	2	0	1	1	1	0
Bladder	1	3	4	9	11	15	24	23	10	20	9
Bones and Joints	2	1	1	0	1	1	0	0	0	0	0
Brain/CNS	0	0	3	4	2	4	2	2	1	1	1
Breast	10	35	37	36	44	29	36	37	27	21	16
Cervix	3	5	0	1	1	4	1	2	0	0	1
Colorectal	1	2	6	19	22	22	22	37	39	25	21
Esophagus	1	0	1	1	5	5	4	7	4	2	2
Eye	0	0	0	1	0	0	0	1	0	0	0
Gallbladder	0	0	0	1	0	0	0	0	1	1	0
Hodgkin	1	0	0	1	0	0	0	0	1	0	0
Ill-Defined	0	3	5	6	4	8	5	9	11	10	11
Kidney	0	4	5	5	7	3	2	6	4	3	2
Larynx	0	0	0	2	2	3	4	2	2	2	0
Leukemia	0	2	3	5	3	3	8	14	3	7	2
Liver	0	0	2	2	1	1	0	4	0	0	2
Lung	1	6	7	15	21	38	39	51	29	24	12
Melanoma	6	10	9	3	3	6	6	6	6	8	3
Myeloma	1	1	3	2	2	1	3	3	0	3	2
Nasal	0	0	0	0	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	2	3	8	8	5	8	14	14	6	7	5
Oral Cavity	2	4	2	3	6	5	3	6	6	3	2
Other Biliary	0	0	0	0	0	1	1	2	2	0	5
Other Digestive	0	1	0	0	0	0	2	0	1	1	0
Other Endocrine including Thymus	0	0	1	0	0	2	0	0	0	1	0
Other Female	0	0	0	0	1	2	1	1	1	0	0
Other Male	0	1	1	0	0	0	0	0	0	0	0
Other Skin	0	0	0	1	0	1	1	1	1	1	1
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	0	1	1	0	3	1	0
Ovary	1	2	3	6	5	4	2	7	4	3	0
Pancreas	0	2	0	6	4	6	6	4	3	3	1
Prostate	0	2	13	36	42	54	71	67	68	21	16
Small Intestine	0	0	0	0	1	0	1	2	0	2	0
Soft Tissue including Heart	0	0	2	3	0	0	0	0	1	1	0
Stomach	0	0	2	0	1	1	4	4	2	3	2
Testis	1	3	3	1	0	0	0	0	0	0	0
Thyroid	3	6	8	7	1	4	5	0	1	1	0
Uterine	0	3	7	10	5	7	11	4	4	1	2
Mesothelioma	0	0	0	1	2	1	1	0	2	1	1
All sites	36	99	136	195	204	242	280	317	244	178	119

Wyoming Mortality[1] for 2002: Deaths by Gender and Age (All Sites)

	Male	Female	Total	00-04	05-09	10-14	15-19	20-24	25-29	30-34
Anus	1	0	1	0	0	0	0	0	0	0
Bladder	14	3	17	0	0	0	0	0	0	0
Bones and Joints	1	1	2	0	0	0	1	0	1	0
Brain/CNS	9	7	16	0	0	0	0	0	0	0
Breast	1	53	54	0	0	0	0	0	0	0
Cervix	0	4	4	0	0	0	0	0	0	0
Colorectal	36	57	93	0	0	0	0	0	1	0
Esophagus	24	8	32	0	0	0	0	0	0	0
Eye	0	0	0	0	0	0	0	0	0	0
Gallbladder	1	0	1	0	0	0	0	0	0	0
Hodgkin	2	1	3	0	0	0	0	0	0	1
Ill-Defined	28	33	61	0	0	0	0	0	0	0
Kidney	12	10	22	0	0	0	0	0	0	0
Larynx	2	2	4	0	0	0	0	0	0	0
Leukemia	18	12	30	0	0	0	0	0	1	1
Liver	7	7	14	0	0	0	0	0	0	0
Lung	134	107	241	0	0	0	0	0	0	0
Melanoma	10	6	16	0	0	0	0	0	0	0
Myeloma	7	5	12	0	0	0	0	0	0	0
Nasal	1	0	1	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	15	21	36	0	0	0	0	0	0	0
Oral Cavity	4	6	10	0	0	0	0	0	0	0
Other Biliary	2	3	5	0	0	0	0	0	0	0
Other Digestive	1	1	2	0	0	0	0	0	0	0
Other Endocrine including Thymus	1	0	1	0	0	0	0	0	0	0
Other Female	0	0	0	0	0	0	0	0	0	0
Other Male	0	0	0	0	0	0	0	0	0	0
Other Skin	4	2	6	0	0	0	0	0	0	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	0	0	0	0	0	0
Ovary	0	35	35	0	0	0	0	0	0	0
Pancreas	25	16	41	0	0	0	0	0	0	0
Prostate	59	0	59	0	0	0	0	0	0	0
Small Intestine	1	1	2	0	0	0	0	0	0	0
Soft Tissue including Heart	3	3	6	0	0	0	0	0	0	0
Stomach	9	2	11	0	0	0	0	0	0	0
Testis	0	0	0	0	0	0	0	0	0	0
Thyroid	0	2	2	0	0	0	0	0	0	0
Uterine	0	11	11	0	0	0	0	0	0	0
Mesothelioma	8	0	8	0	0	0	0	0	0	0
All sites	440	419	859	0	0	0	1	0	3	2

[1]See page 10 for definition of mortality.

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Anus	0	0	0	0	0	0	1	0	0	0	0
Bladder	0	0	2	0	0	1	0	1	3	4	6
Bones and Joints	0	0	0	0	0	0	0	0	0	0	0
Brain/CNS	0	2	0	1	2	1	4	3	3	0	0
Breast	0	2	4	5	5	8	5	4	9	6	6
Cervix	0	1	1	0	0	2	0	0	0	0	0
Colorectal	0	0	0	6	5	8	9	11	17	15	21
Esophagus	0	1	2	0	1	7	5	4	5	3	4
Eye	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	0	0	0	0	0	0	1	0	0	0
Hodgkin	0	0	0	0	0	1	1	0	0	0	0
Ill-Defined	0	0	1	4	2	4	9	12	8	6	15
Kidney	0	1	1	0	0	3	4	2	1	4	6
Larynx	0	1	0	2	0	0	1	0	0	0	0
Leukemia	0	1	0	1	0	3	8	2	4	2	7
Liver	0	0	2	1	1	1	0	2	1	2	4
Lung	2	3	5	18	14	25	40	39	36	27	32
Melanoma	0	2	1	1	1	1	3	2	2	1	2
Myeloma	0	0	1	0	2	1	1	3	0	1	3
Nasal	0	0	1	0	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	0	2	1	1	0	3	4	10	3	6	6
Oral Cavity	0	0	0	0	1	2	3	2	1	0	1
Other Biliary	0	0	0	0	0	0	1	0	3	0	1
Other Digestive	0	0	0	0	0	0	0	1	1	0	0
Other Endocrine including Thymus	0	0	0	0	0	0	1	0	0	0	0
Other Female	0	0	0	0	0	0	0	0	0	0	0
Other Male	0	0	0	0	0	0	0	0	0	0	0
Other Skin	0	0	0	0	0	1	1	0	1	1	2
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	0	0	0	0	0	0	0
Ovary	1	1	1	2	2	6	6	3	2	7	4
Pancreas	1	0	0	4	2	4	5	7	8	7	3
Prostate	0	0	1	1	0	4	3	10	7	15	18
Small Intestine	0	0	0	0	0	0	0	1	0	1	0
Soft Tissue including Heart	1	0	1	1	0	1	0	1	0	0	1
Stomach	0	0	1	0	2	1	0	2	2	2	1
Testis	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	0	1	0	0	0	0	1	0	0	0
Uterine	0	0	1	1	1	1	0	4	1	1	1
Mesothelioma	0	0	0	1	0	0	1	3	1	1	1
All sites	5	17	28	50	41	89	116	131	119	112	145

Wyoming Incidence for 2002: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic
All Sites Combined	2,059	2,015	10	16	10	8	54
Bladder (Urinary)	68	68	0	0	0	0	0
Brain/CNS	33	33	0	0	0	0	0
Breast (Female)	334	327	1	3	2	1	5
Colorectal	217	211	1	2	3	0	5
Kidney	41	40	0	1	0	0	2
Leukemia	58	52	3	1	0	2	3
Lung and Bronchus	243	239	1	3	0	0	6
Melanoma	76	75	0	1	0	0	1
Non-Hodgkin Lymphoma	84	80	0	1	0	3	4
Oral Cavity	42	42	0	0	0	0	2
Ovary	37	34	1	1	0	1	2
Pancreas	35	35	0	0	0	0	0
Prostate	390	385	1	2	2	0	7
Thyroid	43	43	0	0	0	0	0
Uterine	54	50	0	1	2	1	2

Wyoming Mortality for 2002: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic
All Sites Combined	859	843	1	15	2	0	16
Bladder (Urinary)	17	16	0	1	0	0	1
Brain/CNS	16	16	0	0	0	0	0
Breast (Female)	54	52	0	2	1	0	1
Colorectal	93	93	0	0	0	0	1
Kidney	22	19	0	3	0	0	1
Leukemia	30	30	0	0	0	0	1
Lung and Bronchus	241	238	0	3	0	0	1
Melanoma	16	16	0	0	0	0	0
Non-Hodgkin Lymphoma	36	35	0	1	0	0	3
Oral Cavity	10	8	0	2	0	0	0
Ovary	35	34	1	0	0	0	0
Pancreas	41	40	0	1	1	0	0
Prostate	59	59	0	0	0	0	3
Thyroid	2	2	0	0	0	0	0
Uterine	11	10	0	1	0	0	0

State of Wyoming - 2002

Top Cancer Sites by Gender and Age - Incidence and Mortality

Top Incidence Cancer Sites by Gender - 2002

Total		Male		Female	
Prostate	390	Prostate	390	Breast	332
Breast	332	Lung	132	Colorectal	116
Lung	243	Colorectal	101	Lung	111
Colorectal	217	Bladder	52	Uterine	54
Non-Hodgkin	84	Non-Hodgkin	45	Non-Hodgkin	39

Top Incidence Sites by Age (Case count included only if more than 1 case per cancer)

0-4		5-9		10-14		15-19		20-24	
Brain/CNS	3	Brain/CNS	4			Hodgkin	3	Brain/CNS	3
		Leukemia	2					Hodgkin	3
								Melanoma	3
								Thyroid	3
25-29		30-34		35-39		40-44		45-49	
Melanoma	4	Breast	3	Breast	10	Breast	35	Breast	37
Breast	3	Testis	3	Melanoma	6	Melanoma	10	Prostate	13
Leukemia	2	Thyroid	3	Cervix	3	Lung	6	Melanoma	9
				Thyroid	3	Thyroid	6	Non-Hodgkin	8
						Cervix	5	Thyroid	8
50-54		55-59		60-64		65-69		70-74	
Breast	36	Breast	44	Prostate	54	Prostate	71	Prostate	67
Prostate	36	Prostate	42	Lung	38	Lung	39	Lung	51
Colorectal	19	Colorectal	22	Breast	29	Breast	36	Breast	37
Lung	15	Lung	21	Colorectal	22	Colorectal	22	Colorectal	37
Uterine	10	Kidney	7	Leukemia	8	Bladder	16		
75-79		80-84		85+					
Prostate	68	Colorectal	25	Colorectal	21				
Colorectal	39	Lung	24	Breast	16				
Lung	29	Breast	21	Prostate	16				
Breast	27	Prostate	21	Lung	12				
Ill-Defined	11	Bladder	11	Ill-Defined	11				

Top Mortality Cancer Sites by Gender - 2002

Total		Male		Female	
Lung	241	Lung	134	Lung	107
Colorectal	93	Prostate	59	Colorectal	57
Ill-Defined	61	Colorectal	36	Breast	53
Prostate	59	Ill-Defined	28	Ovary	35
Breast	54	Pancreas	25	Ill-Defined	33

Top Mortality Sites by Age (Mortality count included only if more than 1 case per cancer)

0-4		5-9		10-14		15-19		20-24	
All Cancers Have 1 or Less Count		All Cancers Have 1 or Less Count		All Cancers Have 1 or Less Count		All Cancers Have 1 or Less Count		All Cancers Have 1 or Less Count	
25-29		30-34		35-39		40-44		45-49	
All Cancers Have 1 or Less Count		All Cancers Have 1 or Less Count		Lung	2	Lung	3	Lung	5
						Brain/CNS	2	Breast	4
						Breast	2	Bladder	2
						Melanoma	2	Esophagus	2
						Non-Hodgkin	2	Liver	2
50-54		55-59		60-64		65-69		70-74	
Lung	18	Lung	14	Lung	25	Lung	40	Lung	39
Colorectal	6	Breast	5	Breast	8	Colorectal	9	Ill-Defined	12
Breast	5	Colorectal	5	Colorectal	8	Ill-Defined	9	Colorectal	11
Pancreas	4			Esophagus	7	Leukemia	8	Non-Hodgkin	10
Ill-Defined	4			Ovary	6	Ovary	6	Prostate	10
75-79		80-84		85+					
Lung	36	Lung	27	Lung	32				
Colorectal	17	Colorectal	15	Colorectal	21				
Ill-Defined	8	Prostate	15	Prostate	18				
Pancreas	8	Ovary	7	Ill-Defined	15				
Prostate	7	Pancreas	7	Leukemia	7				

Wyoming Counties - 2002

Incidence and Mortality (All Sites)

Wyoming County Incidence Cases -- 2002 (All Sites)

	Albany	BigHorn	Campbell	Carbon	Converse	Crook	Fremont	Goshen	Hot Springs	Johnson	Laramie	Lincoln
Anus	0	1	0	0	2	0	0	0	0	0	1	0
Bladder	3	3	8	4	4	3	9	8	1	4	16	2
Bones and Joints	1	0	1	0	1	0	0	0	1	0	1	0
Brain/CNS	0	0	3	3	0	0	4	0	1	0	1	1
Breast	18	7	16	8	3	2	27	8	6	8	69	9
Cervix	0	1	2	0	0	0	1	1	0	1	4	1
Colorectal	9	6	11	6	5	2	15	6	9	5	39	3
Esophagus	5	0	1	0	0	0	5	1	0	0	8	0
Eye	0	0	0	0	0	0	0	0	0	0	2	0
Gallbladder	1	0	0	0	0	0	0	0	0	0	0	0
Hodgkin	1	0	0	1	1	0	0	0	1	0	0	1
Ill-Defined	3	1	1	3	2	3	4	3	0	0	12	1
Kidney	1	0	3	0	0	0	3	0	0	0	8	1
Larynx	1	1	1	0	1	0	2	1	0	0	2	0
Leukemia	3	2	3	1	2	2	3	1	2	5	7	1
Liver	0	0	1	1	0	0	2	0	0	0	3	0
Lung	12	10	9	5	12	2	23	4	2	6	42	2
Melanoma	4	3	4	2	1	1	5	3	2	1	16	2
Myeloma	0	2	0	0	0	0	4	0	0	0	2	0
Nasal	0	0	0	0	0	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	1	3	8	3	0	0	4	4	0	3	14	0
Oral Cavity	0	3	4	1	0	0	4	1	0	1	9	0
Other Biliary	2	1	0	0	0	0	0	0	0	0	2	0
Other Digestive	0	0	1	0	0	0	0	0	0	0	1	0
Other Endocrine including Thymus	0	0	1	0	0	0	1	0	0	0	0	0
Other Female	0	1	0	0	1	0	1	0	0	0	0	0
Other Male	0	0	0	0	0	0	0	0	0	0	1	0
Other Skin	0	0	1	1	0	0	0	0	0	0	0	1
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0	0
Other Urinary	1	0	0	0	0	0	1	0	0	0	2	0
Ovary	1	1	2	0	0	0	4	0	1	1	4	0
Pancreas	1	1	5	1	1	2	0	0	0	0	6	0
Prostate	19	11	13	4	9	4	30	21	6	4	85	12
Small Intestine	0	0	0	0	0	0	1	0	0	0	1	0
Soft Tissue including Heart	0	0	0	0	1	0	0	0	0	0	3	0
Stomach	2	2	3	1	1	0	2	1	0	0	2	0
Testis	1	0	1	0	0	0	2	0	0	0	1	1
Thyroid	4	1	3	1	2	0	2	2	0	1	10	1
Uterine	4	1	1	2	4	1	3	2	1	0	6	3
Mesothelioma	0	1	0	0	0	1	0	0	0	1	1	0
All sites	98	61	103	46	52	21	157	63	32	38	375	42

	Natrona	Niobrara	Park	Platte	Sheridan	Sublette	Sweet-water	Teton	Uinta	Washakie	Weston
Anus	1	0	0	0	1	0	0	0	0	0	1
Bladder	23	0	7	4	12	1	7	1	3	1	5
Bones and Joints	0	0	0	0	0	0	0	2	0	0	0
Brain/CNS	3	0	2	1	2	0	2	5	1	3	1
Breast	55	1	15	8	24	6	18	12	5	3	6
Cervix	4	0	0	0	0	0	2	0	2	0	0
Colorectal	29	1	15	4	17	1	17	4	8	3	2
Esophagus	2	0	2	0	3	1	3	1	1	0	0
Eye	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	0	0	0	0	0	1	1	0	0	0
Hodgkin	2	0	0	0	1	0	1	1	0	0	0
Ill-Defined	12	2	4	0	3	2	7	1	2	2	5
Kidney	7	0	1	0	11	0	1	0	2	1	2
Larynx	2	0	2	1	1	0	2	0	0	0	0
Leukemia	11	1	5	0	5	1	0	2	1	0	0
Liver	1	0	0	0	2	0	1	0	0	1	0
Lung	41	2	12	3	21	4	12	4	2	6	7
Melanoma	8	0	5	0	6	0	9	3	1	0	0
Myeloma	4	0	1	1	2	0	3	1	1	0	0
Nasal	0	0	0	0	0	0	0	0	0	0	1
Non-Hodgkin Lymphoma	14	1	4	2	2	3	5	6	4	2	0
Oral Cavity	6	1	3	2	0	0	4	1	0	2	0
Other Biliary	2	0	1	1	1	0	1	0	0	0	0
Other Digestive Organs	3	0	0	0	1	0	0	0	0	0	0
Other Endocrine including Thymus	2	0	0	0	0	0	0	0	0	0	0
Other Female	1	0	0	1	0	0	1	0	0	0	0
Other Male	1	0	0	0	0	0	0	0	0	0	0
Other Skin	1	0	1	0	1	1	0	0	0	0	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0
Other Urinary Organs	0	0	0	0	1	0	0	0	0	1	0
Ovary	9	0	0	2	3	0	4	2	1	2	0
Pancreas	5	0	3	1	3	0	2	0	0	1	3
Prostate	55	4	18	10	28	3	23	13	10	3	5
Small Intestine	1	0	0	1	0	0	0	1	1	0	0
Soft Tissue including Heart	2	0	0	0	2	0	0	0	0	0	0
Stomach	4	0	0	1	0	0	0	0	0	0	0
Testis	4	0	1	0	1	0	0	2	0	0	1
Thyroid	4	0	2	0	5	0	2	0	0	2	1
Uterine	8	0	2	0	6	2	2	2	1	2	1
Mesothelioma	3	0	0	1	0	1	0	0	0	0	0
All sites	317	13	102	42	160	25	128	65	45	34	39

Wyoming County Mortality Counts -- 2002 (All Sites)

	Albany	Big Horn	Campbell	Carbon	Converse	Crook	Fremont	Goshen	Hot Springs	Johnson	Laramie	Lincoln
Anus	0	0	0	0	0	0	0	0	0	0	0	0
Bladder	1	0	0	0	0	0	3	0	0	0	1	0
Bones and Joints	0	0	0	0	0	0	0	1	0	0	0	0
Brain/CNS	2	1	2	0	0	2	1	0	0	0	0	0
Breast	4	1	3	2	2	0	5	1	1	1	8	0
Cervix	0	0	0	0	0	1	0	0	0	0	0	0
Colorectal	4	3	5	3	0	1	3	4	2	0	20	3
Esophagus	5	2	0	2	0	3	1	1	0	1	6	0
Eye	0	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	0	0	0	0	0	0	0	0	0	0	0
Hodgkin	0	0	1	0	0	0	1	0	0	0	0	0
Ill-Defined	3	2	2	3	2	1	4	2	2	3	7	3
Kidney	1	0	1	1	0	1	4	2	0	0	4	0
Larynx	0	0	0	0	0	0	0	0	0	0	0	0
Leukemia	2	1	2	1	1	0	3	0	0	1	6	0
Liver	0	0	1	0	0	0	3	0	0	0	3	0
Lung	9	8	14	5	7	3	23	4	4	6	40	5
Melanoma	2	0	2	0	0	0	2	0	2	0	1	0
Myeloma	2	0	1	0	1	0	2	0	0	0	1	0
Nasal	0	0	0	0	0	0	0	0	0	0	1	0
Non-Hodgkin Lymphoma	1	0	1	0	0	0	3	3	1	0	7	0
Oral Cavity	1	2	0	0	0	0	2	0	0	0	1	0
Other Biliary	0	0	0	0	1	0	0	0	0	0	1	0
Other Digestive	0	0	0	0	0	0	0	1	0	0	1	0
Other Endocrine including Thymus	0	0	0	0	0	0	0	0	0	0	0	0
Other Female	0	0	0	0	0	0	0	0	0	0	0	0
Other Male	0	0	0	0	0	0	0	0	0	0	0	0
Other Skin	1	0	0	0	0	0	2	0	0	0	1	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	0	0	0	0	0	0	0	0
Ovary	1	1	1	0	0	3	0	0	0	1	6	1
Pancreas	3	1	4	4	2	1	3	3	0	0	2	0
Prostate	3	1	5	3	0	1	1	3	1	0	7	2
Small Intestine	0	0	0	0	0	0	0	0	0	0	1	0
Soft Tissue including Heart	0	0	0	0	0	0	0	0	0	0	2	0
Stomach	1	1	1	0	0	1	0	0	0	0	1	0
Testis	0	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	0	0	1	0	0	1	0	0	0	0	0
Uterine	0	0	0	0	0	0	1	0	1	0	0	1
Mesothelioma	0	2	1	0	0	0	0	0	0	0	2	0
All sites	46	26	47	25	16	18	68	25	14	13	130	15

	Natrona	Niobrara	Park	Platte	Sheridan	Sublette	Sweet-water	Teton	Uinta	Washakie	Weston
Anus	1	0	0	0	0	0	0	0	0	0	0
Bladder	4	0	1	0	1	0	3	1	0	1	1
Bones and Joints	0	0	0	0	0	0	0	1	0	0	0
Brain/CNS	4	0	1	1	0	0	2	0	0	0	0
Breast	10	0	1	3	7	0	1	0	0	2	2
Cervix	1	0	0	0	0	0	1	0	0	1	0
Colorectal	8	4	8	3	8	3	3	1	5	1	1
Esophagus	4	0	2	1	1	0	1	1	1	0	0
Eye	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	0	0	1	0	0	0	0	0	0	0
Hodgkin	1	0	0	0	0	0	0	0	0	0	0
Ill-Defined	6	0	4	3	4	1	5	0	2	1	1
Kidney	2	0	0	0	3	1	2	0	0	0	0
Larynx	2	0	0	0	0	0	1	0	0	0	1
Leukemia	4	0	4	0	3	0	0	0	1	0	1
Liver	2	0	0	0	1	1	3	0	0	0	0
Lung	37	2	23	3	13	4	7	4	5	7	8
Melanoma	0	0	1	2	0	0	2	1	1	0	0
Myeloma	3	0	0	0	0	0	1	0	0	0	1
Nasal	0	0	0	0	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	6	2	2	1	1	0	2	2	1	3	0
Oral Cavity	3	0	1	0	0	0	0	0	0	0	0
Other Biliary	1	0	0	1	0	0	1	0	0	0	0
Other Digestive	0	0	0	0	0	0	0	0	0	0	0
Other Endocrine including Thymus	0	0	0	0	0	0	0	0	0	0	1
Other Female	0	0	0	0	0	0	0	0	0	0	0
Other Male	0	0	0	0	0	0	0	0	0	0	0
Other Skin	0	0	0	0	0	2	0	0	0	0	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	0	0	0	0	0	0	0
Ovary	8	1	2	1	2	1	3	1	0	1	1
Pancreas	3	0	2	1	4	1	0	0	2	2	3
Prostate	11	1	5	2	3	1	3	1	2	1	2
Small Intestine	1	0	0	0	0	0	0	0	0	0	0
Soft Tissue including Heart	1	1	0	0	0	0	1	0	0	0	1
Stomach	5	0	0	0	0	0	1	0	0	0	0
Testis	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	0	0	0	0	0	0	0	0	0	0
Uterine	1	0	0	1	4	0	1	1	0	0	0
Mesothelioma	1	0	0	0	0	1	0	0	0	0	1
All sites	130	11	57	24	55	16	44	14	20	20	25

Summary of
All Cancer Sites Combined
and
Top 15 Sites

2002 Wyoming Incidence and Mortality

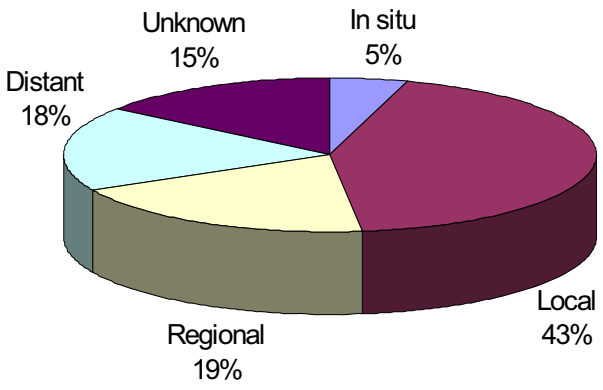
All Sites Combined

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	1,073	986	2,059
# In situ Cases	96	126	222
Wyo Incidence	482.0*	374.3	419.7
US Incidence	542.2	418.2	468.0
# Cancer Deaths	440	419	859
Wyo Mortality	205.6	154.1	175.0
US Mortality	238.8	163.2	193.3

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



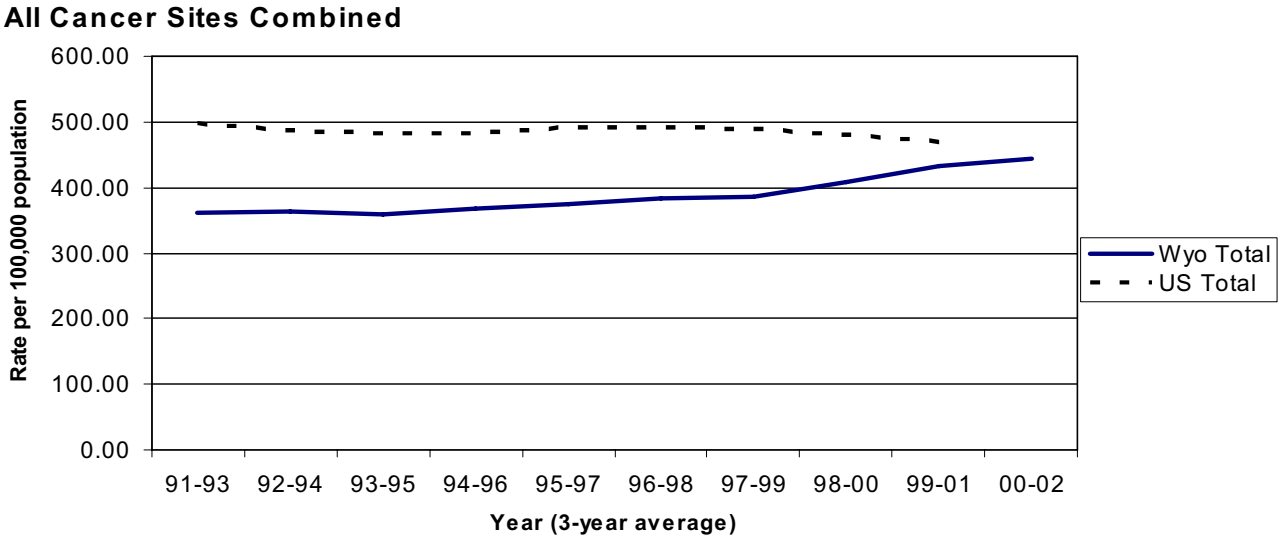
The incidence rate in Wyoming males for all cancer sites was significantly lower than the United States rate. The rates for females and total population, while lower than the national rates, were not significantly lower. The mortality rates in Wyoming were also lower than the national rates, but again were not significant.

The 12-year incidence trend shows that all-site cancer incidence appears to be continuing to increase slightly, while the U.S rate has remained relatively steady.

Significantly, more cases of cancer were diagnosed at the local stage in 2002 than in 2001 (37%).

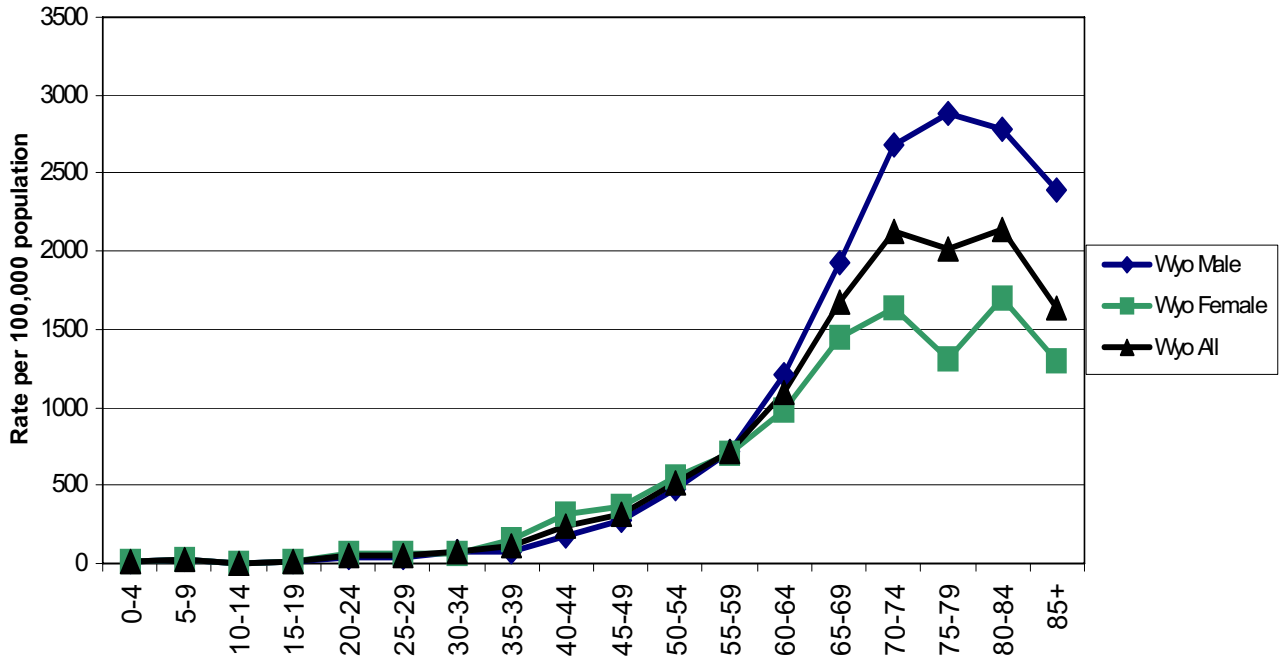
The incidence rate for Cancer Health District (CHD) 7 (347.30) was significantly lower than the state rate (418.44) from 1998-2002. There were no other significant differences between CHD's and the state rate.

12-Year Incidence Trend



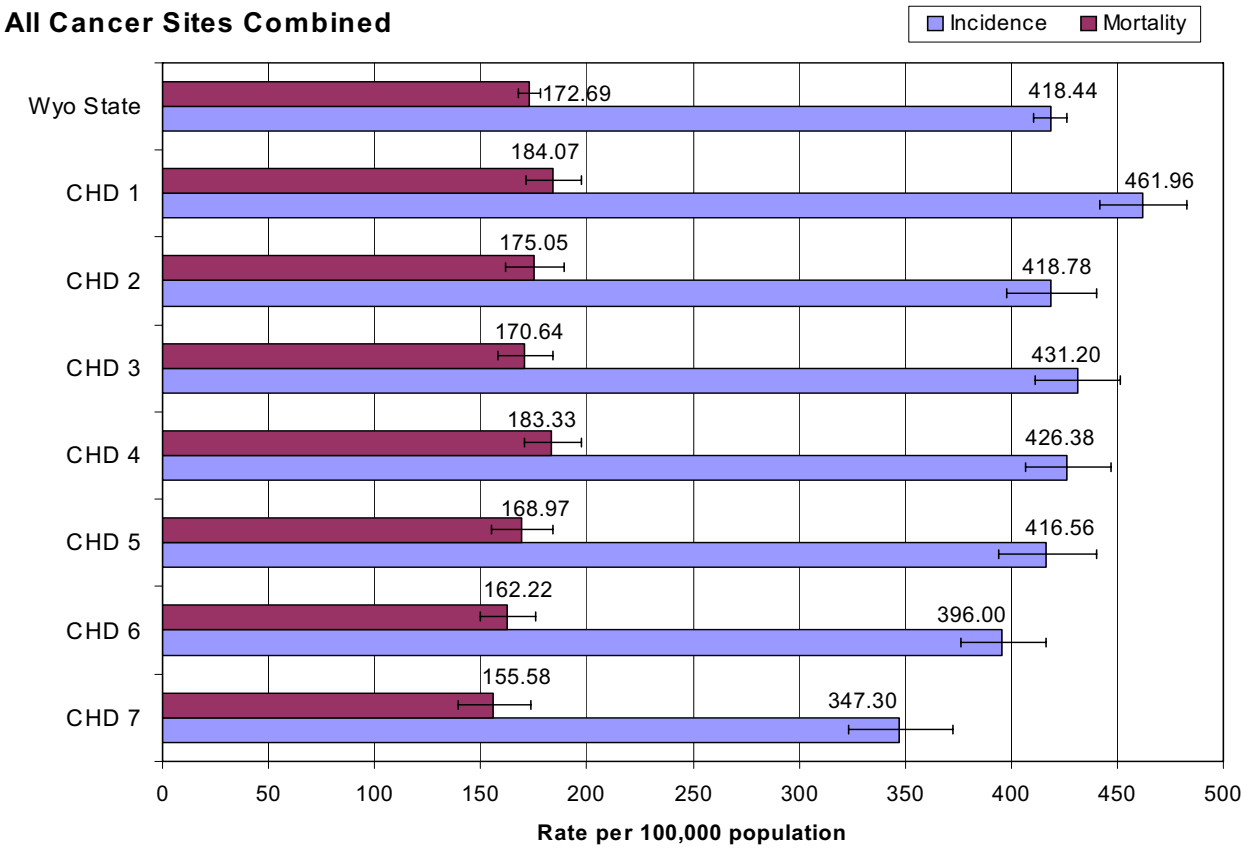
Age-Specific Incidence Rates, 2002

All Cancer Sites Combined



Cancer Health District Incidence and Mortality 5-Year Average, 1998-2002

All Cancer Sites Combined



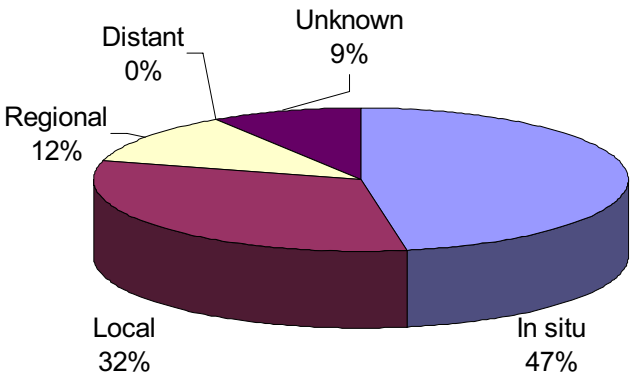
Bladder (Urinary)

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	52	16	68
# In situ Cases	50	11	61
Wyo Incidence	45.3	10.4	25.8
US Incidence	39.4	9.7	22.2
# Cancer Deaths	14	3	17
Wyo Mortality	7.8	1.1	3.5
US Mortality	7.9	2.2	4.5

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



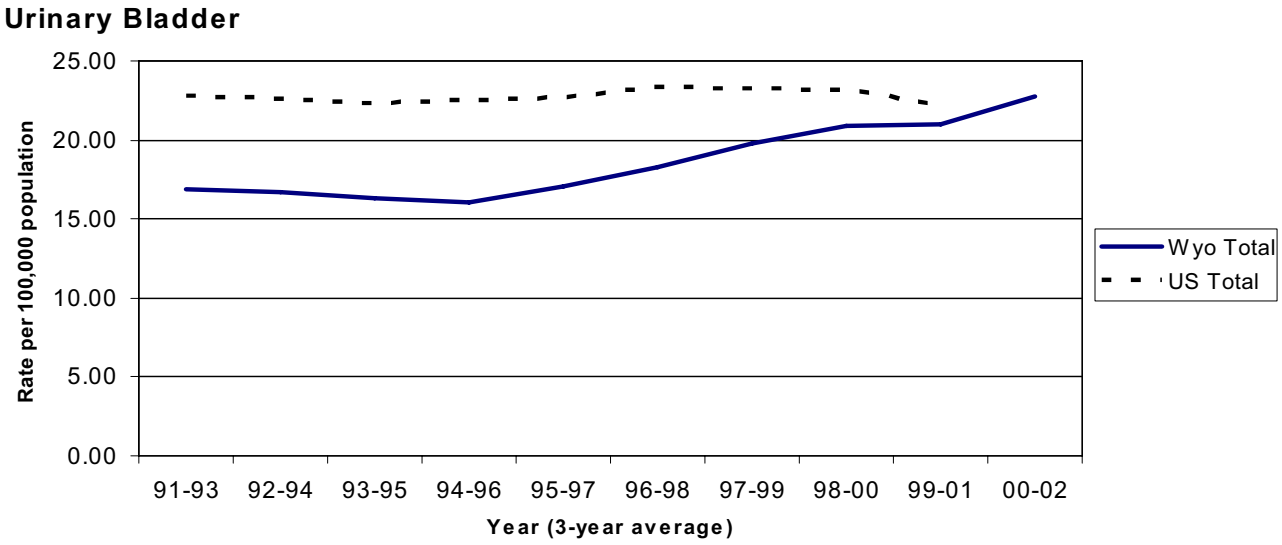
The incidence rates in Wyoming for bladder cancer in males, females, and total population, although higher than the national rates, were not significantly higher. The mortality rates in Wyoming showed no significant difference from the national rates.

The 12-year incidence trend shows an apparent increase in Wyoming for bladder cancer from 99-01 to 00-02, while the national rates appear to be decreasing slightly.

There was a small, but nonsignificant, increase in the number of bladder cancers diagnosed at the In situ stage from 2001 (42%).

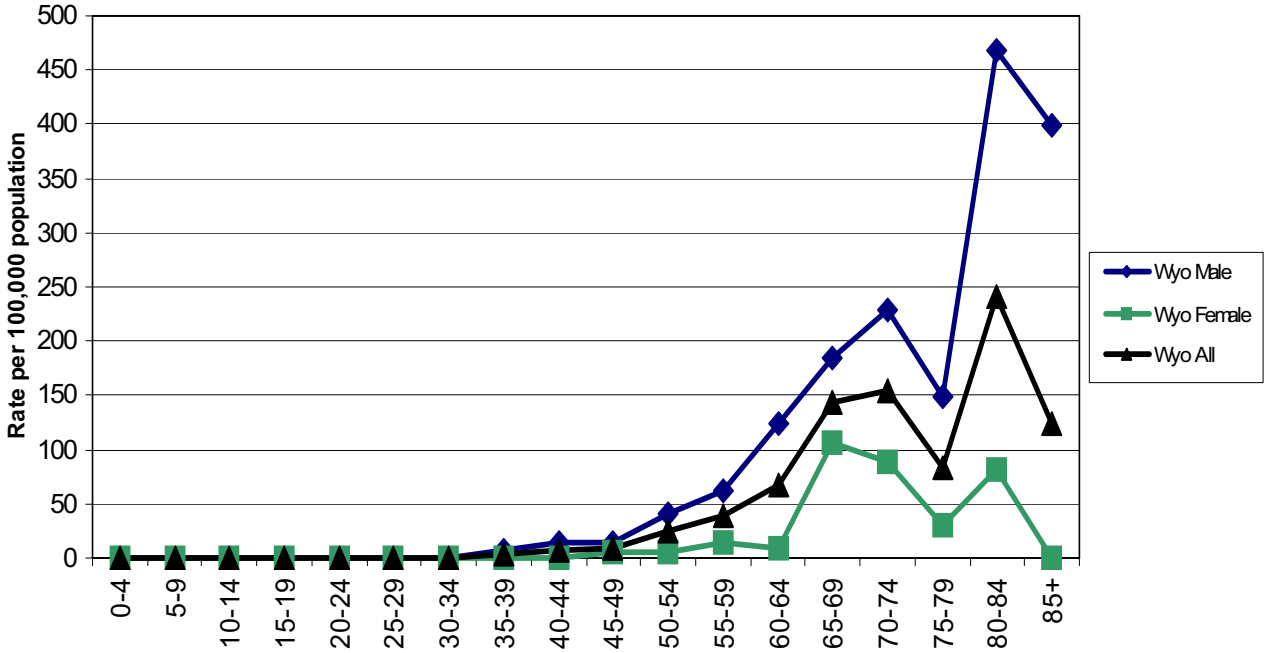
No statistically significant differences were found between CHD's and state rate for incidence or mortality.
Note: Rates for Bladder Cancer includes in situ.

12-Year Incidence Trend



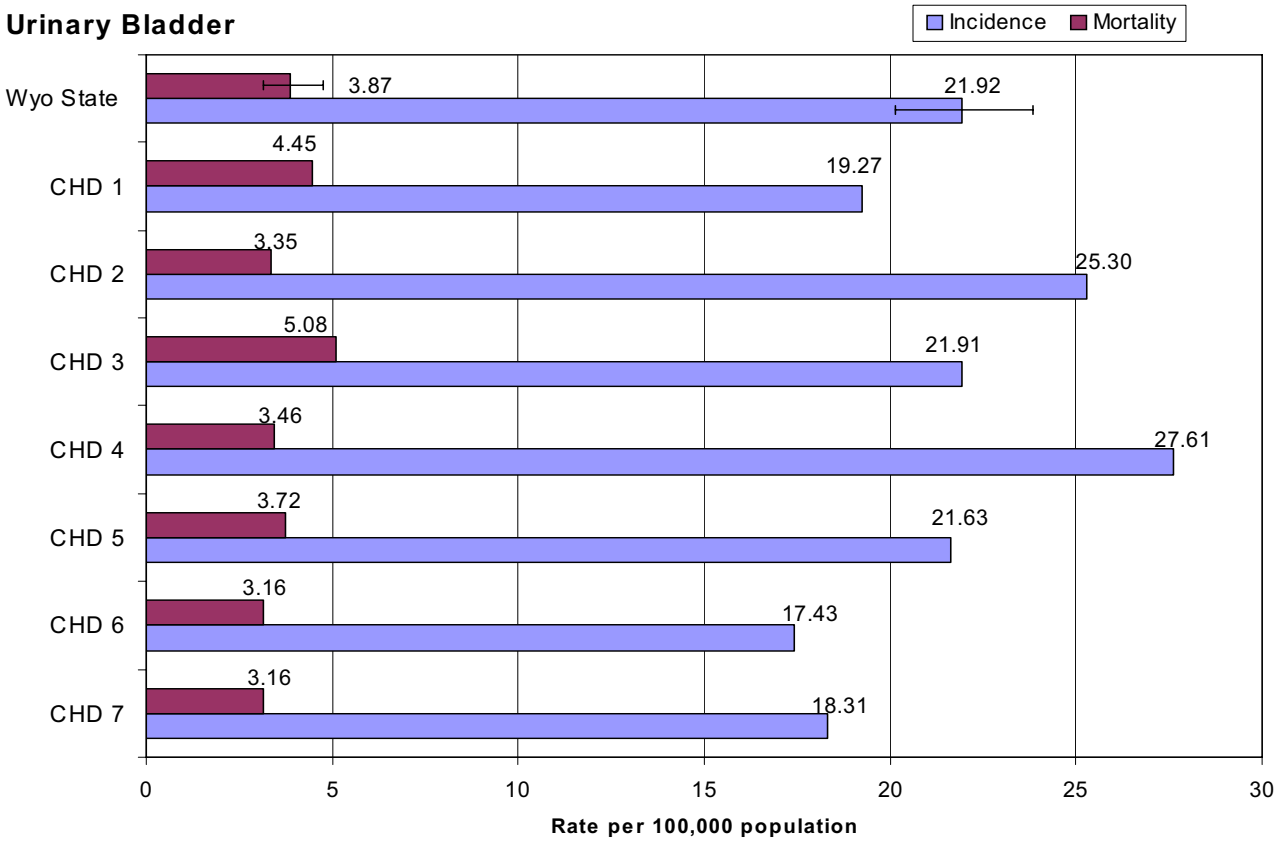
Age-Specific Incidence Rates, 2002

Bladder (Urinary)



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002

Urinary Bladder



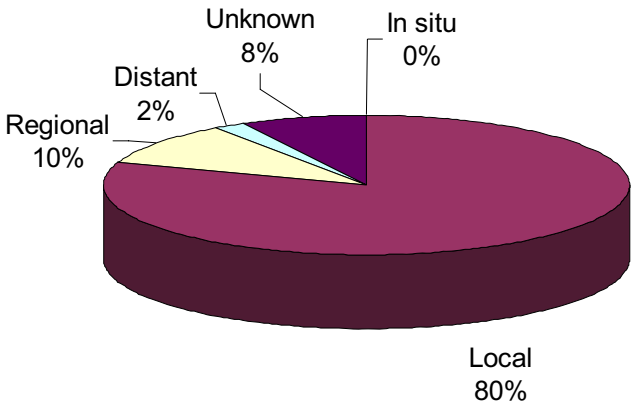
Brain/CNS

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	23	10	33
Wyo Incidence	9.4	3.8	6.5
US Incidence	8.0	5.7	6.8
# Cancer Deaths	9	7	16
Wyo Mortality	3.8	2.7	3.2
US Mortality	5.9	3.9	4.8

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



The incidence rate of brain/CNS cancer for males was slightly higher than the national rates, while the incidence rate for females and total population were lower than the national rate. The mortality rates for males, females, and total population were all lower than the national rates. None of these differences were significant.

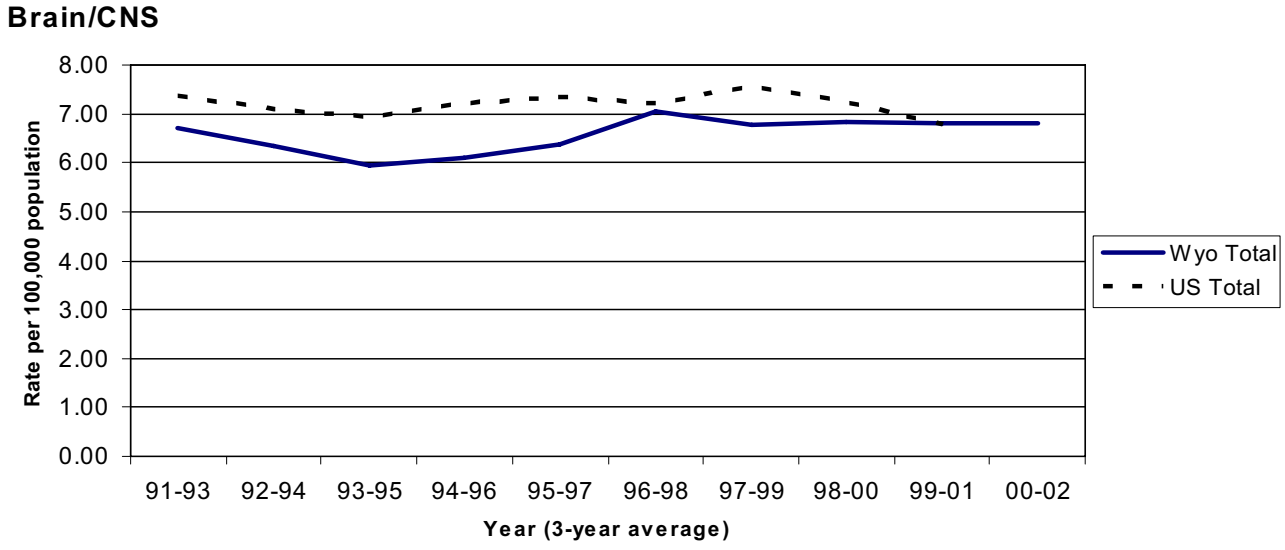
The 12-year trend continues to show a leveling-off of the incidence of brain/CNS cancer since 96-98.

There were a greater percentage of brain/CNS cancers diagnosed at the local stage in 2002 than in 2001 (64%). However this decrease was not significant.

No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

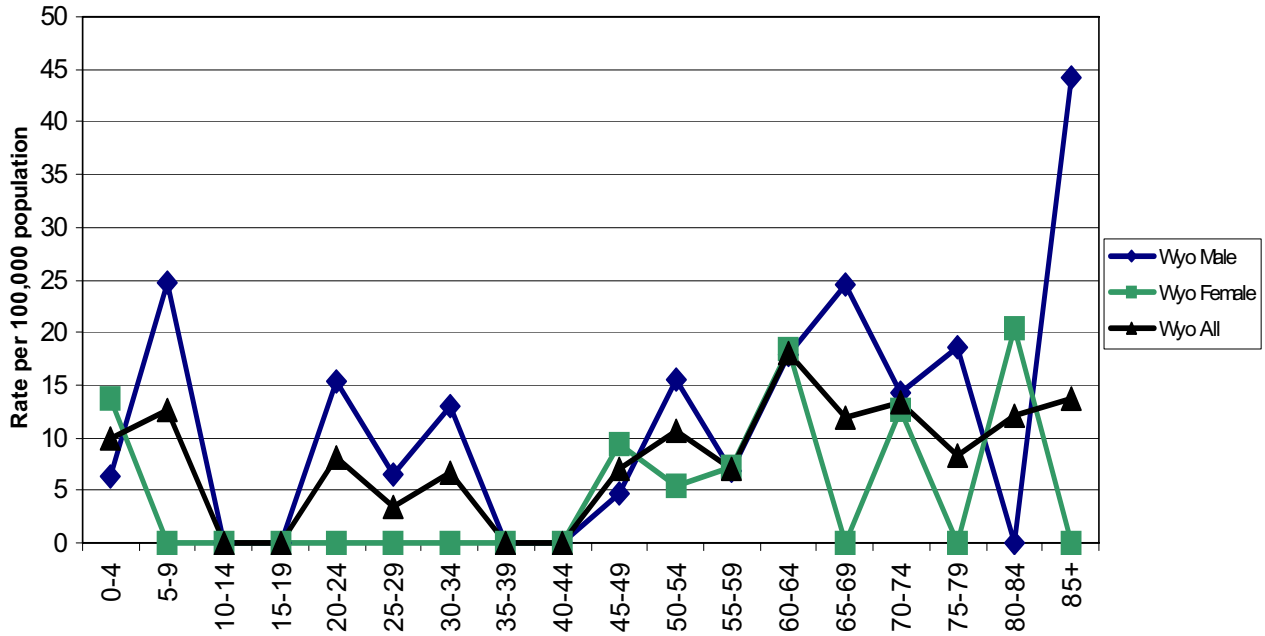
CNS=Central Nervous System

12-Year Incidence Trend



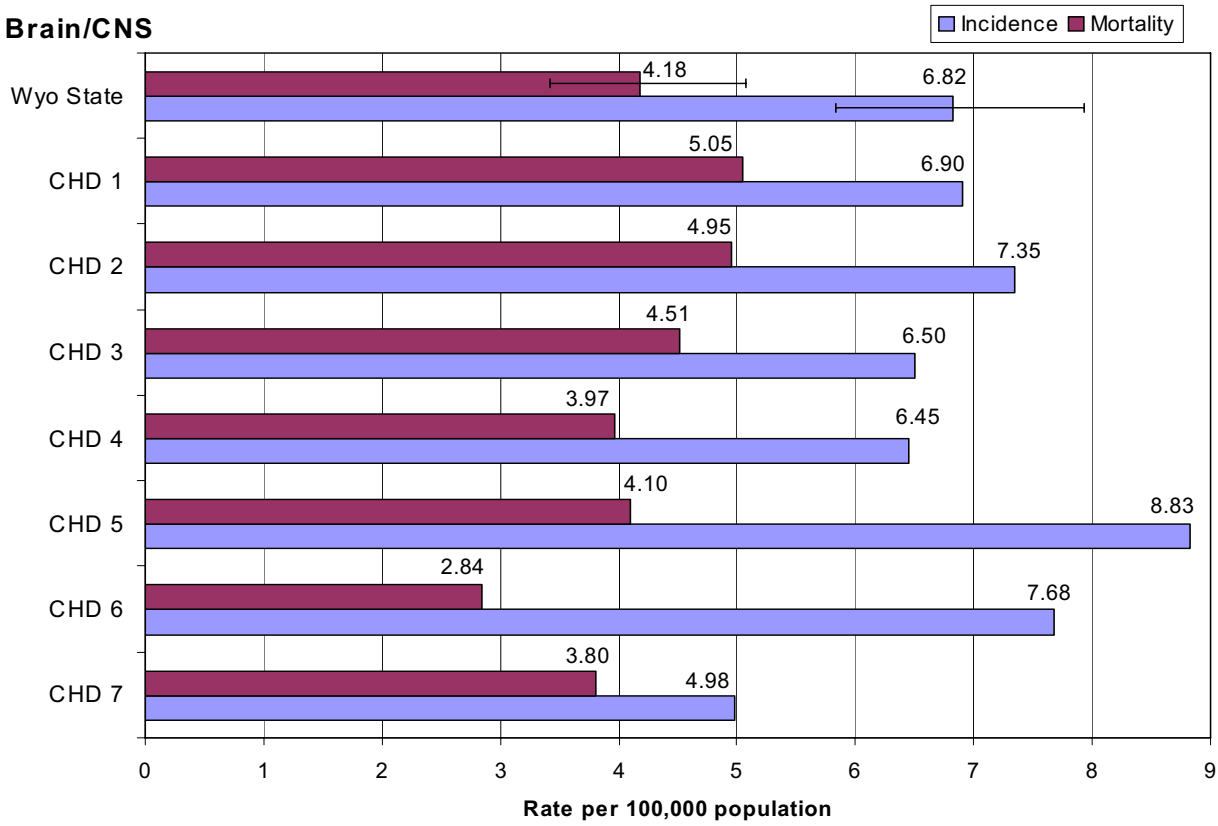
Age-Specific Incidence Rates, 2002

Brain/CNS



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002

Brain/CNS



Breast (Female Only)

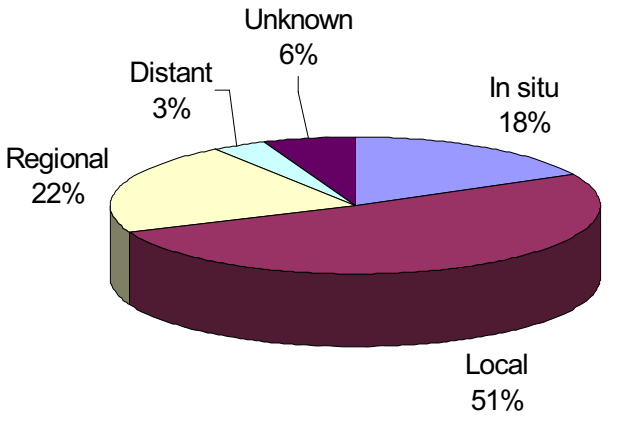
Incidence and Mortality Summary

	Female
# Invasive Cases	332
# In situ Cases	71
Wyo Incidence	124.5
US Incidence	139.0
# Cancer Deaths	53
Wyo Mortality	19.4
US Mortality	25.4

* indicates the state rate is significantly different than the national rate

NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



The incidence and motality rates of female breast cancer in Wyoming were both lower than the United States rate. However, these differences were not statistically significant.

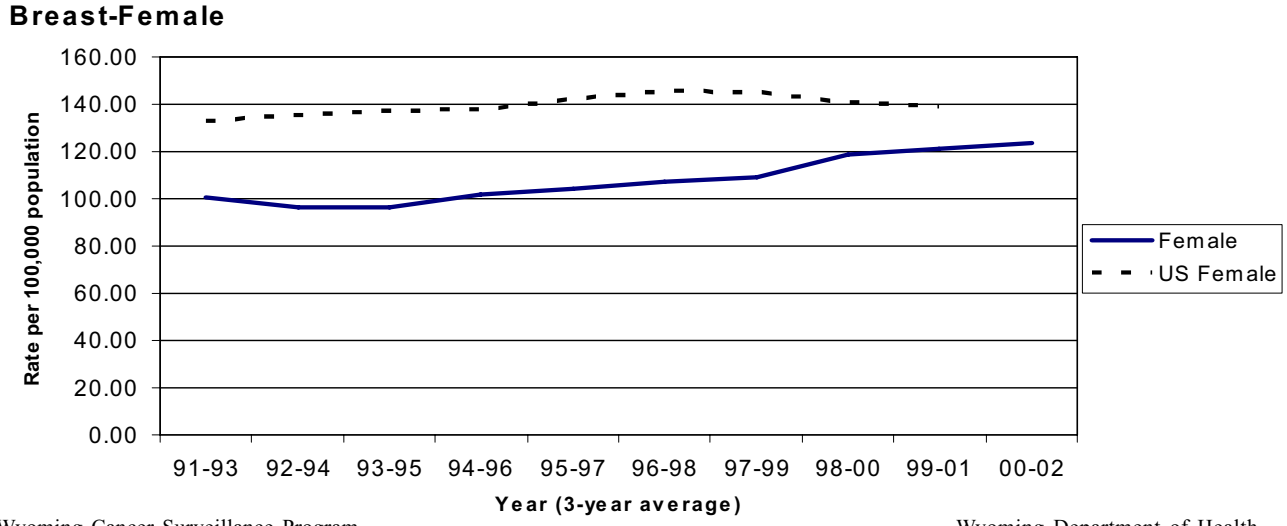
The 12-year incidence trend shows a small increase from 99-01 to 00-02.

Stage at diagnosis showed a nonsignificant increase the number of cases diagnosed as In situ from 2001 (12%).

No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

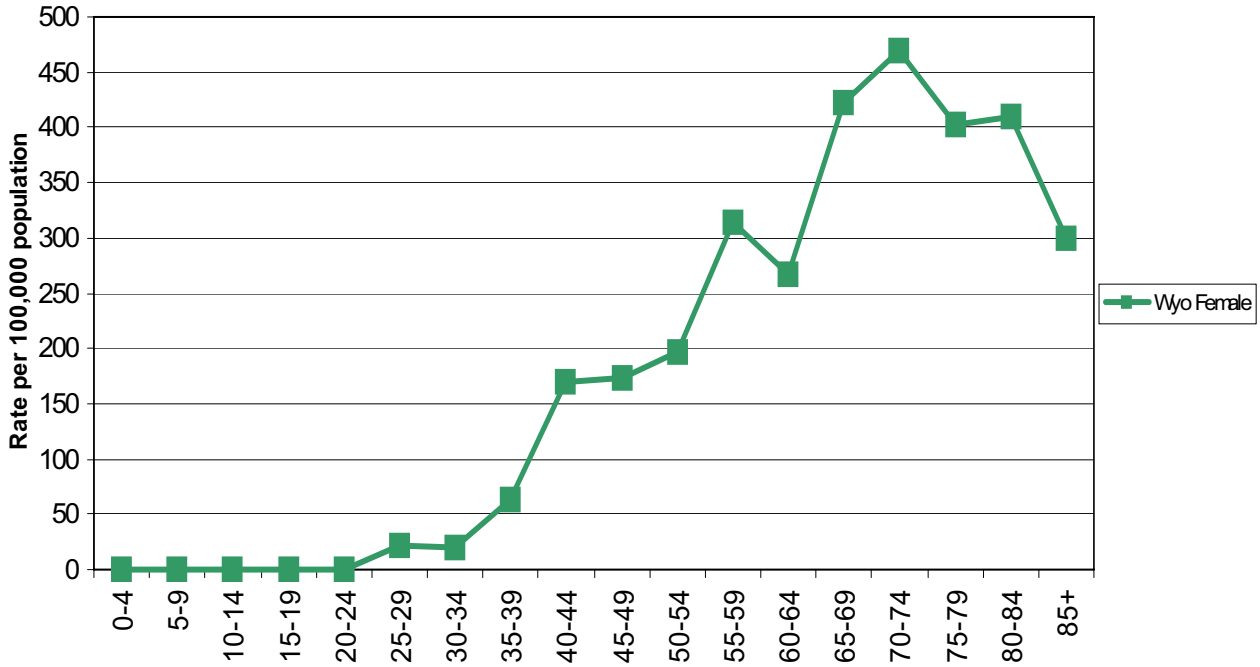
No cases of male breast cancer were reported in Wyoming during 2002.

12-Year Incidence Trend



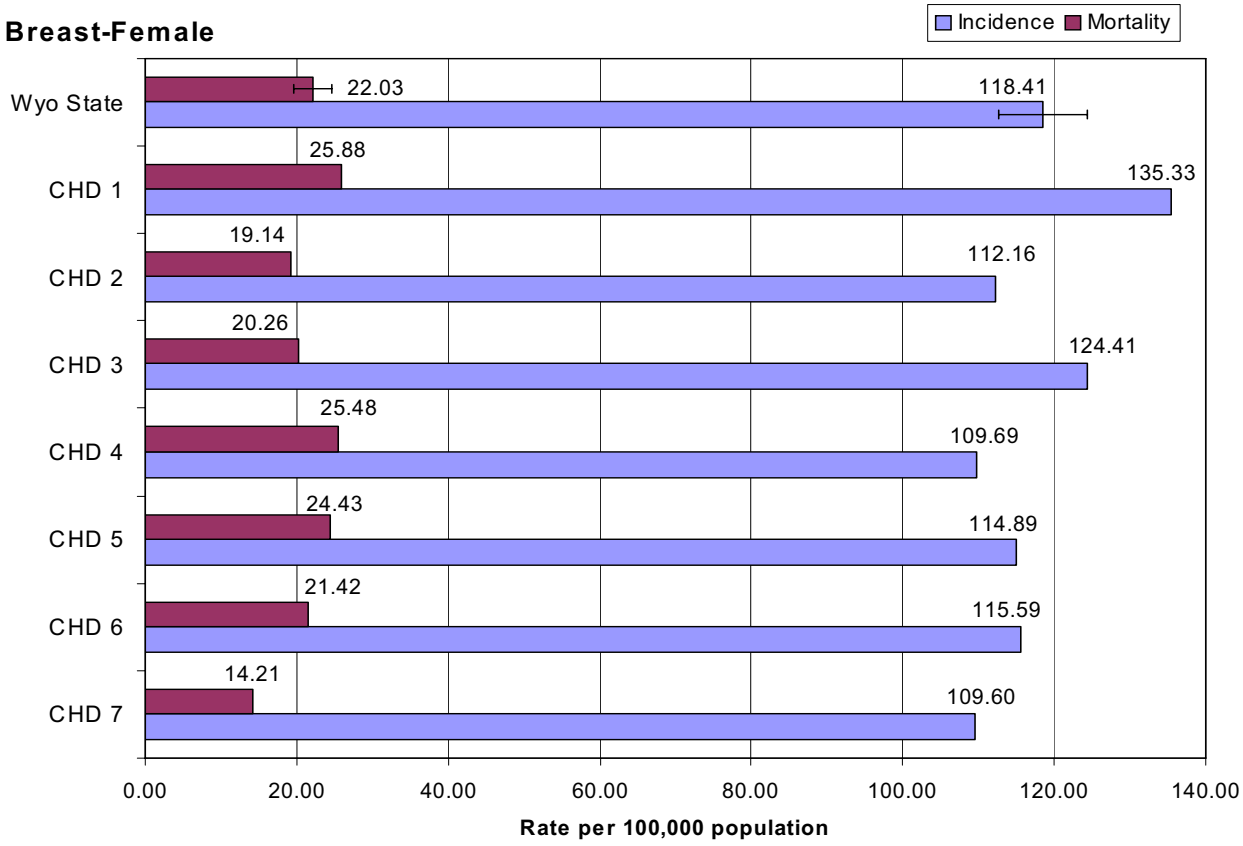
Age-Specific Incidence Rates - 2002

Breast-Female



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002

Breast-Female



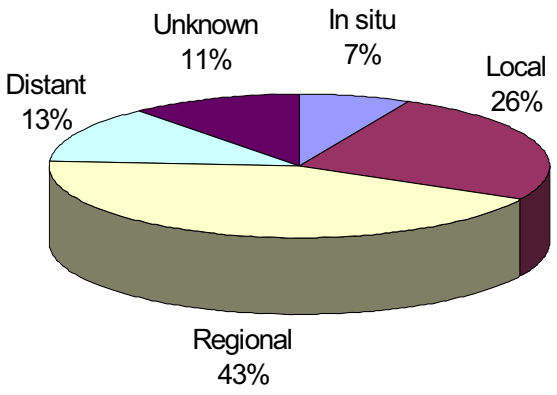
Colorectal

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	101	116	217
# In situ Cases	14	3	17
Wyo Incidence	43.8	42.6	43.7
US Incidence	58.9	43.3	50.2
# Cancer Deaths	36	57	93
Wyo Mortality	16.4	20.8	19.2
US Mortality	23.7	16.4	19.5

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



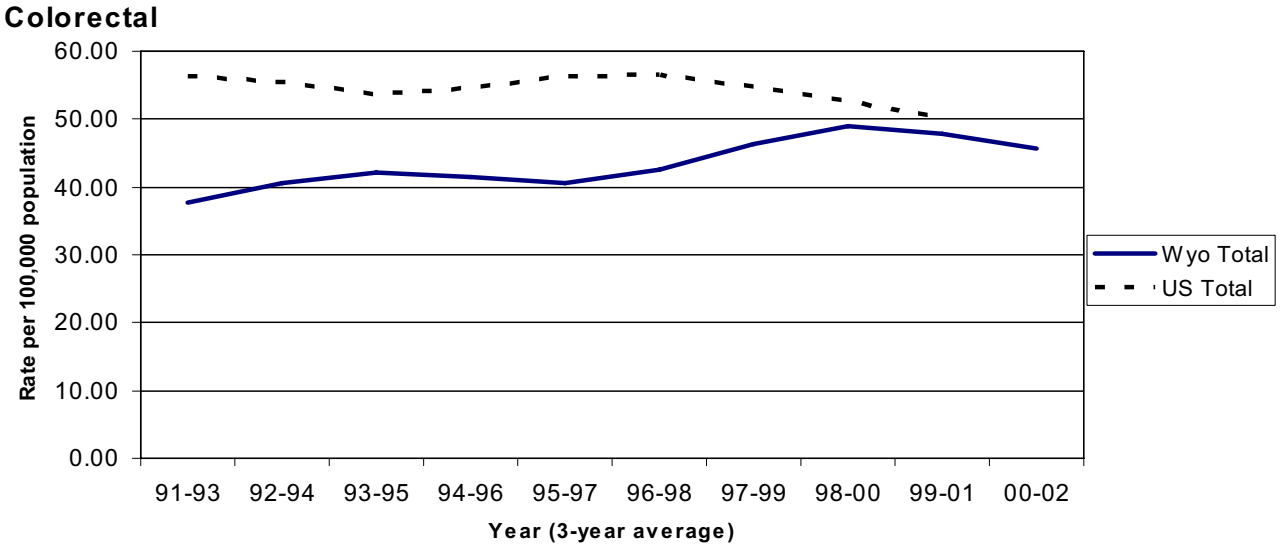
The Wyoming incidence rates for colorectal cancer were all lower than the national rates. The mortality rate for females was slightly higher than the national rate, while the rates for males and total population were both slightly lower than the national rate. None of the differences were significant.

The incidence rates for Wyoming appears to be decreasing slightly after peaking in the 98-00 time period. Nationally the rates for colorectal cancer have been decreasing since 1996.

No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

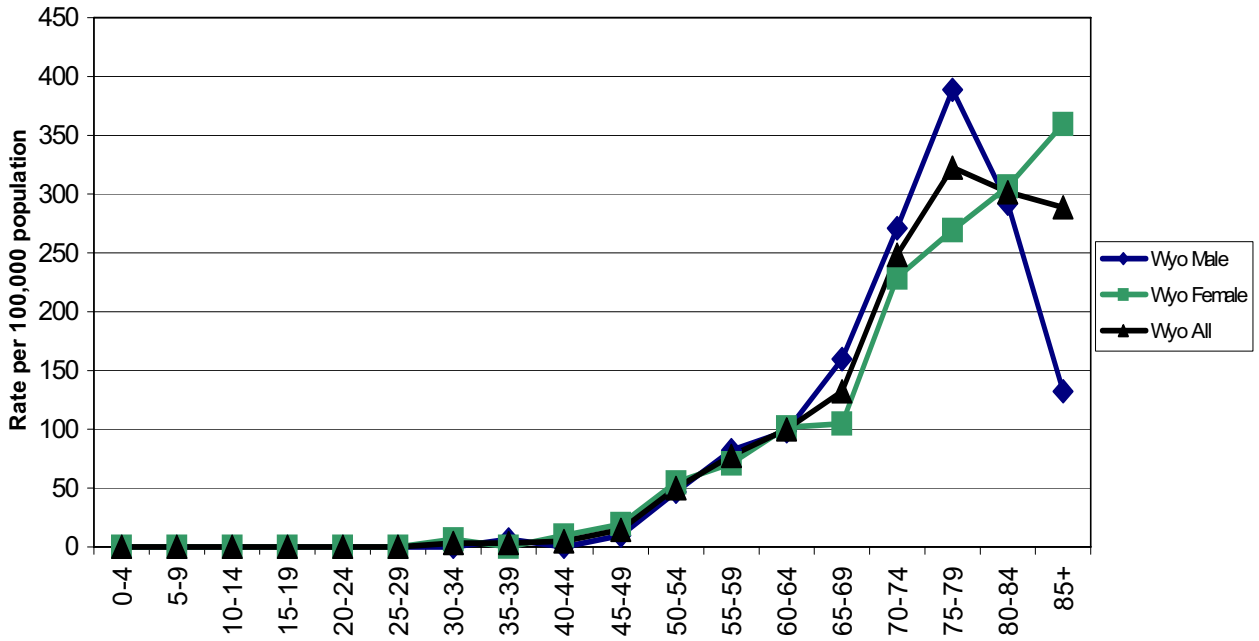
Colorectal = Colon and rectum combined.

12-Year Incidence Trend



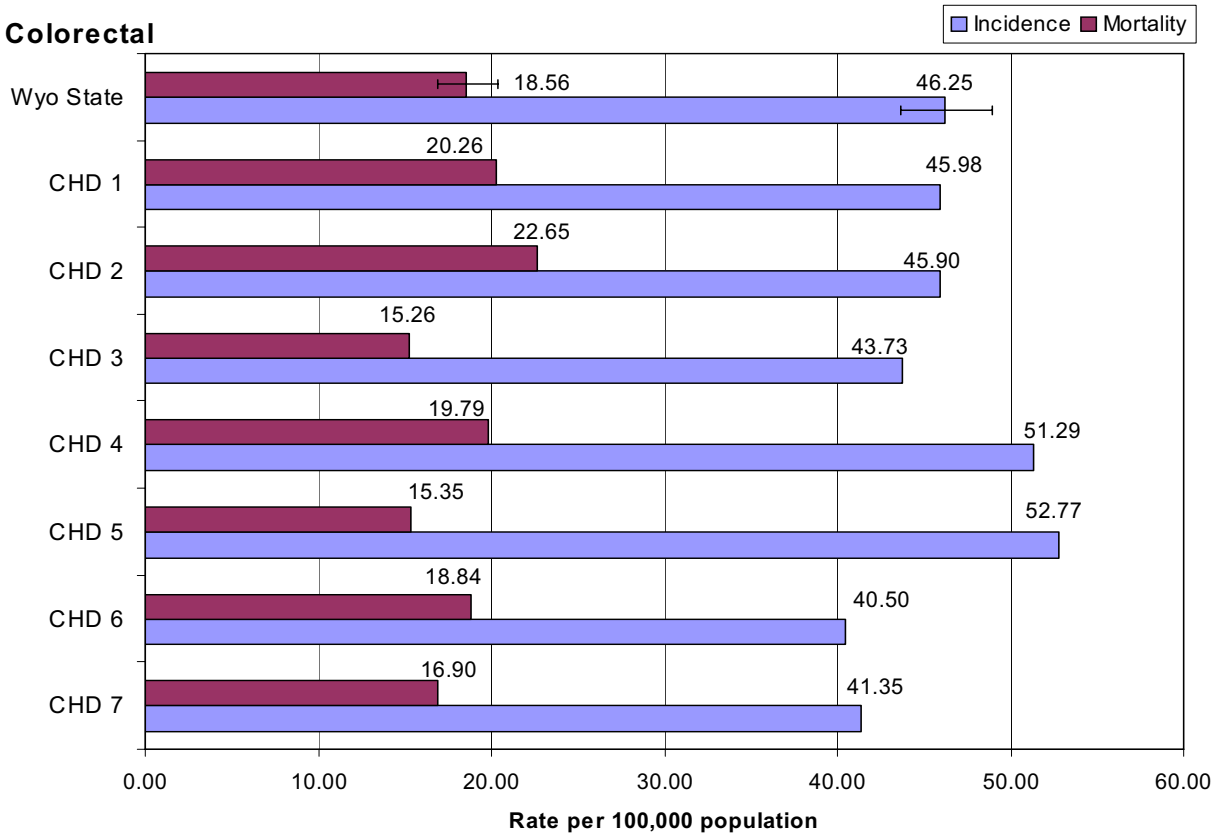
Age-Specific Incidence Rates, 2002

Colorectal



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002

Colorectal



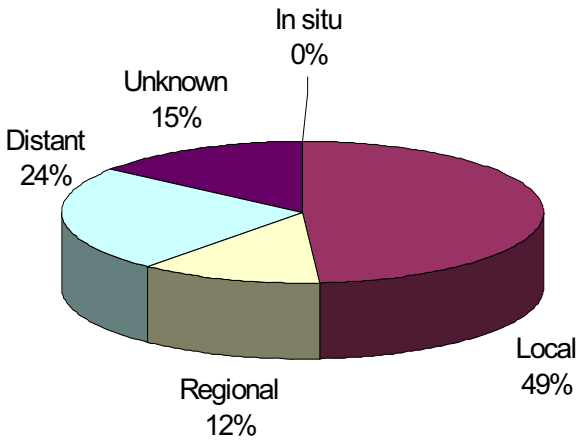
Kidney/Renal Pelvis

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	22	19	41
Wyo Incidence	8.8	7.1	7.9
US Incidence	16.6	8.4	12.1
# Cancer Deaths	12	10	22
Wyo Mortality	5.6	3.5	4.5
US Mortality	6.3	2.8	4.3

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis

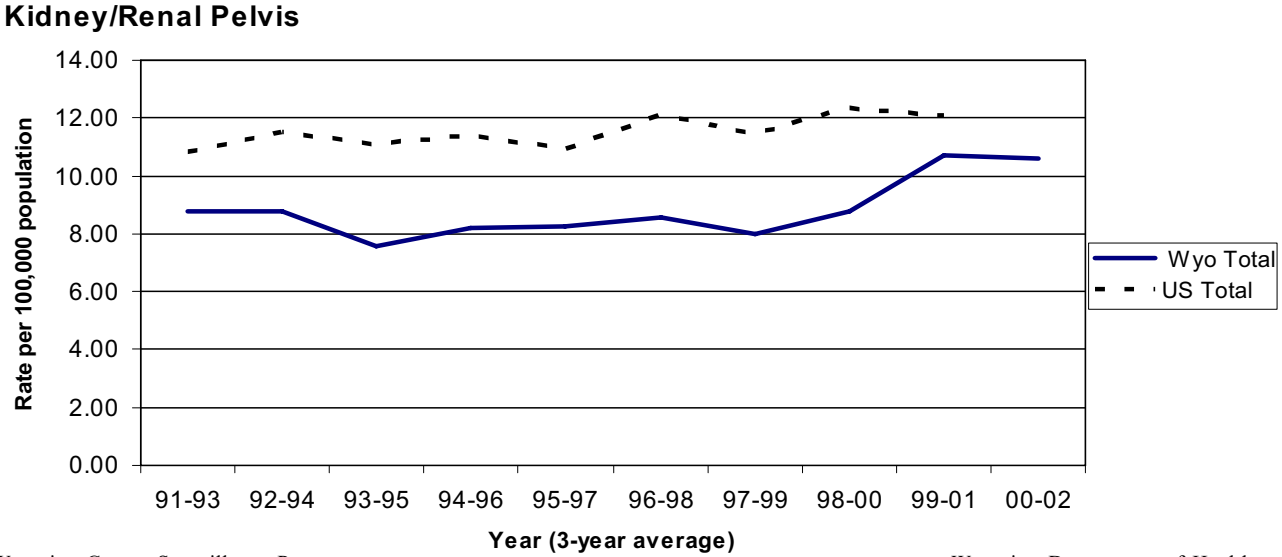


The incidence rates for kidney/renal pelvis cancer were lower in Wyoming males, females, and total population than the national population. For mortality, the rates for females and total population were slightly higher than the national rate, while the male mortalily rate was slightly lower than the national rate. None of these differences were statistically significant.

The 12-year trend shows an apparent leveling-off after increasing from 97-99 to 99-01. The national rate seems to mirror the state rate.

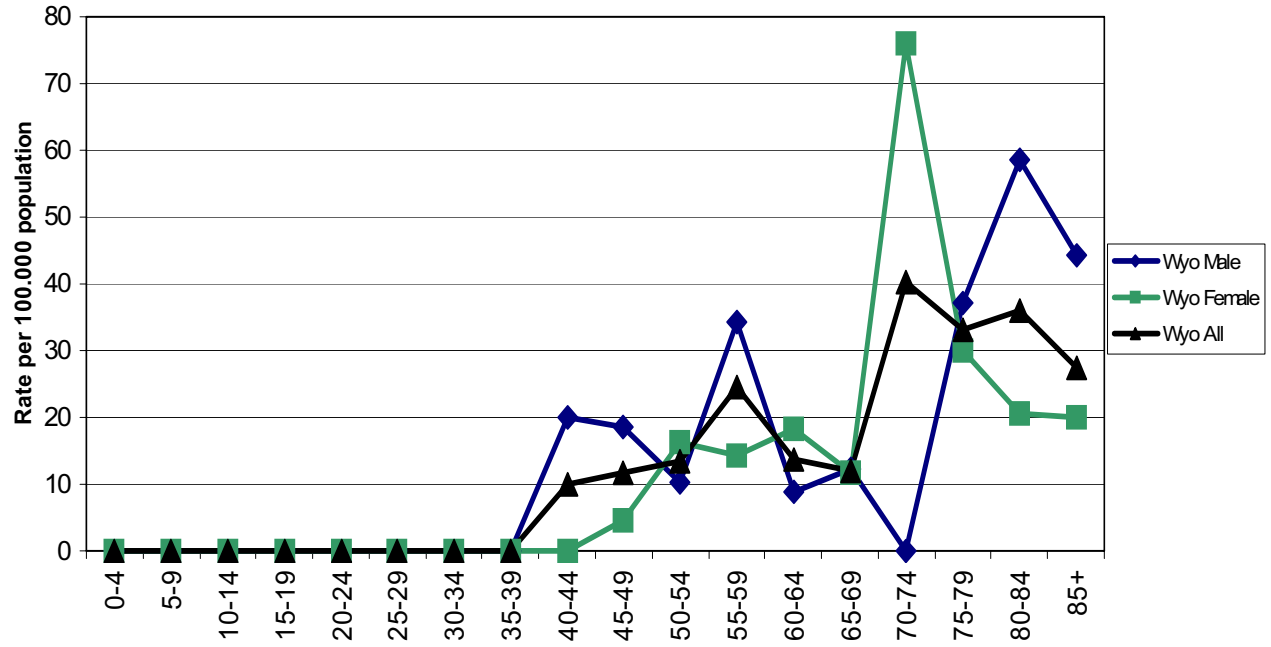
The number of kidney/renal pelvis cases diagnosed at the distant stage increased from 13% in 2001 to 24% in 2002, however, this change was nonsignificant.
No statistically significant differences were found between CHD's and the state rate for incidence or mortality.

12-Year Incidence Trend



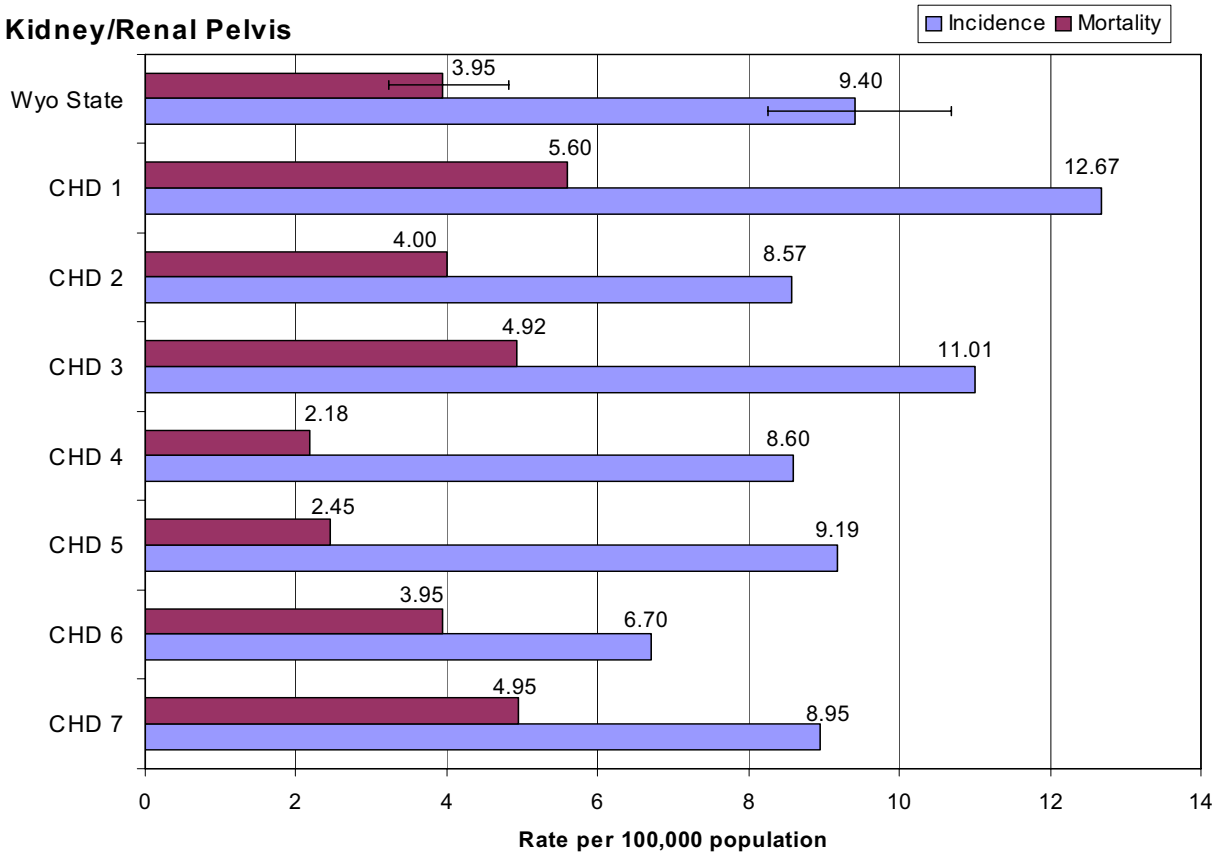
Age-Specific Incidence Rates, 2002

Kidney/Renal Pelvis



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002

Kidney/Renal Pelvis



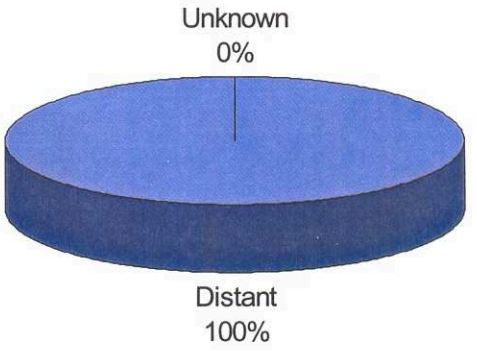
Leukemia

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	36	22	58
Wyo Incidence	15.8	8.2	11.7
US Incidence	16.1	9.6	12.4
# Cancer Deaths	18	12	30
Wyo Mortality	8.6	4.3	6.2
US Mortality	10.4	6.0	7.8

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



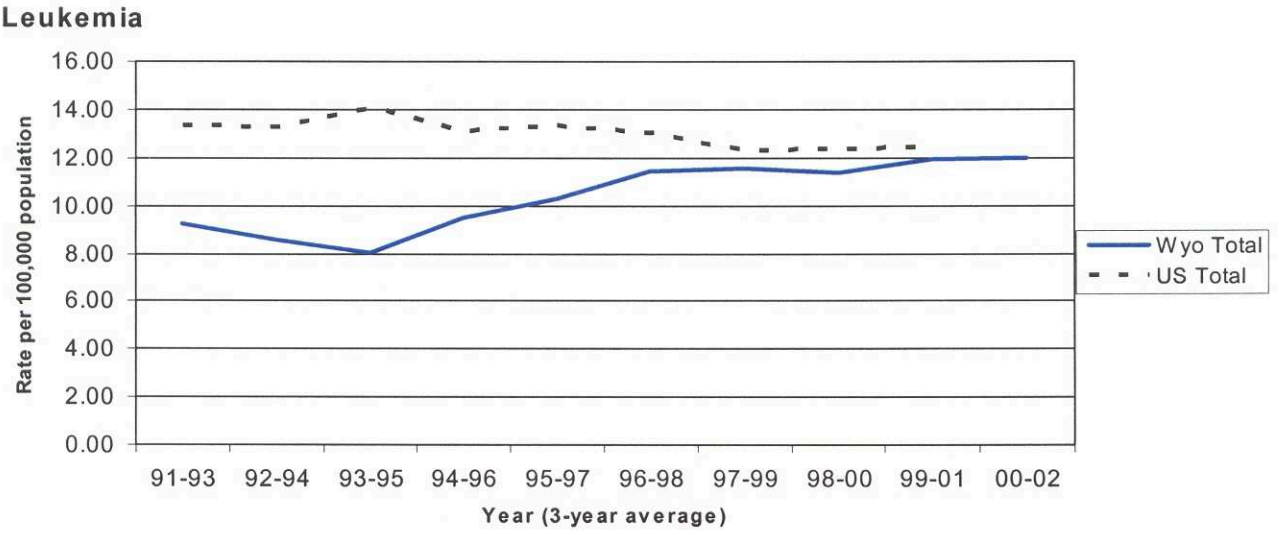
Note: Leukemia is systemic and therefore only diagnosed at the distant stage.

Both incidence and mortality rates in Wyoming for leukemia were lower than national rates for males, females, and total population. None of these differences were statistically significant.

The incidence trend for Wyoming appears to have plateaued since 99-01 following an increase beginning in 93-95. The national trend also appears to have leveled off following a decrease from 1997 to 1999.

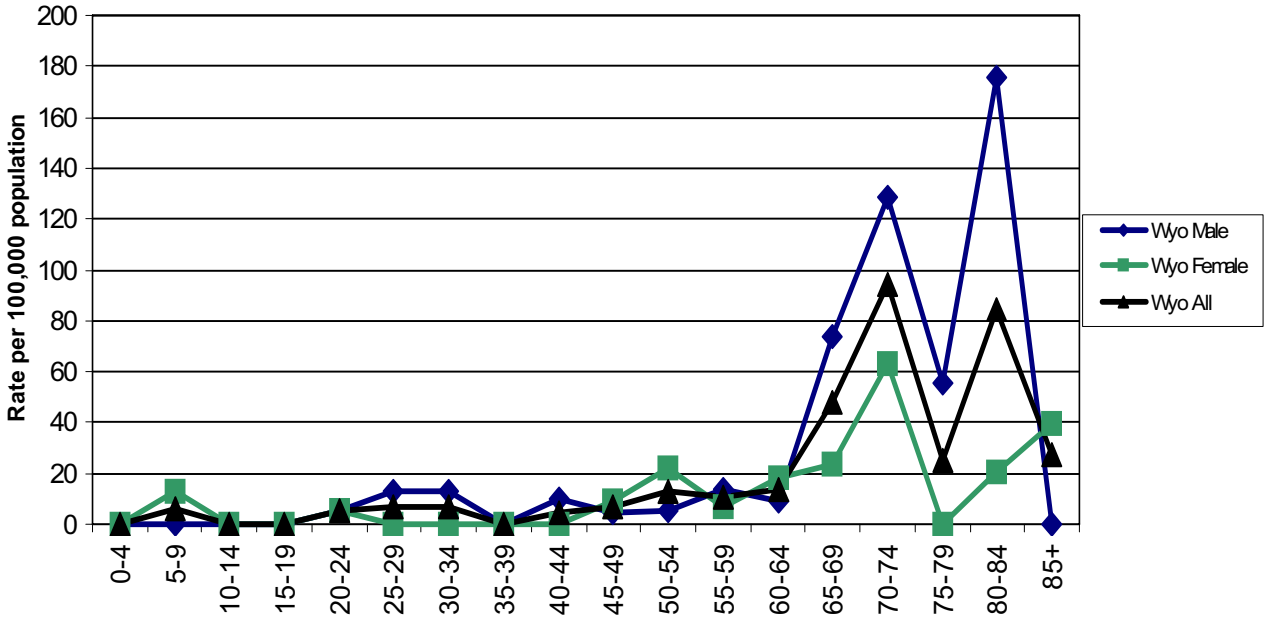
No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

12-Year Incidence Trend



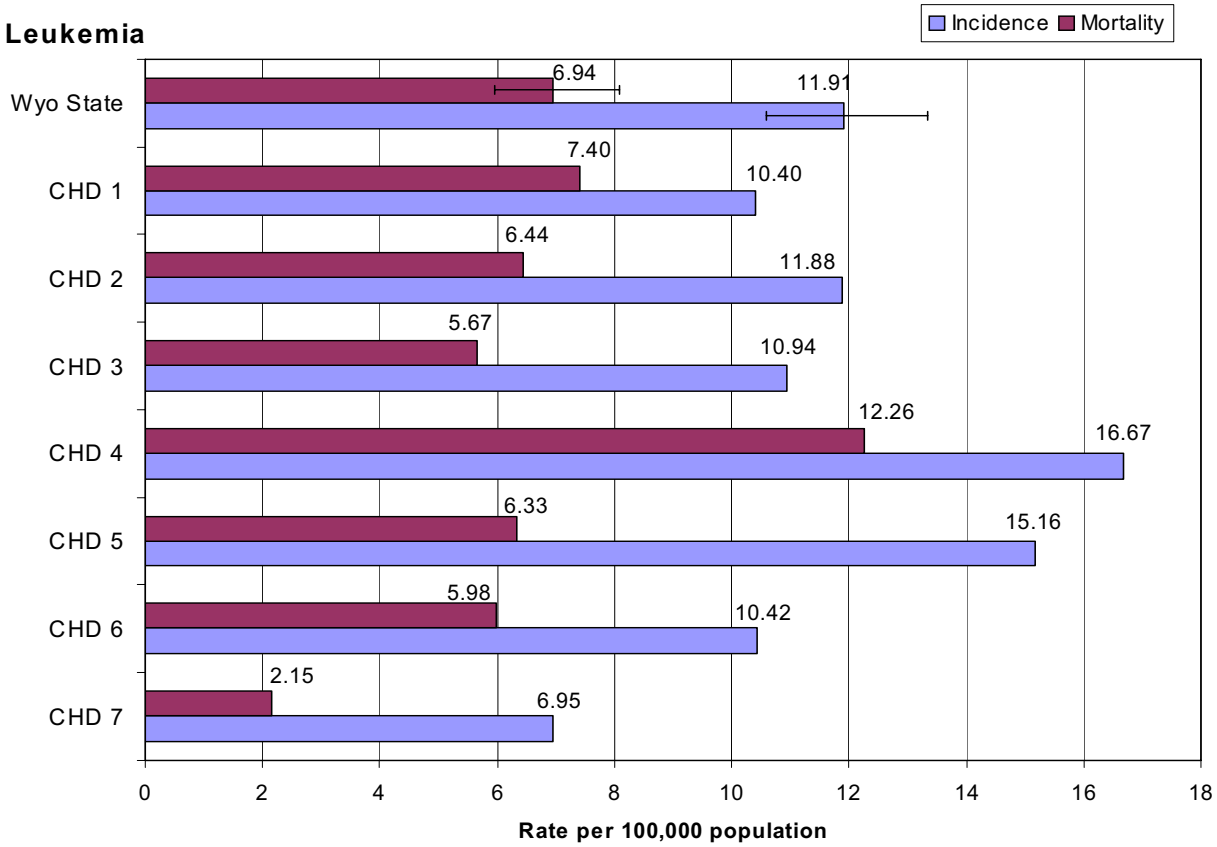
Age-Specific Incidence Rates, 2002

Leukemia



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002

Leukemia



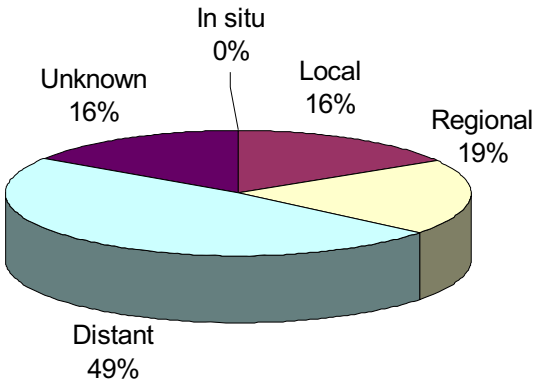
Lung and Bronchus

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	132	111	243
Wyo Incidence	57.5	42.1	48.5
US Incidence	72.7	48.3	58.6
# Cancer Deaths	134	107	241
Wyo Mortality	60.2	40.0	49.0
US Mortality	74.1	42.0	55.5

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



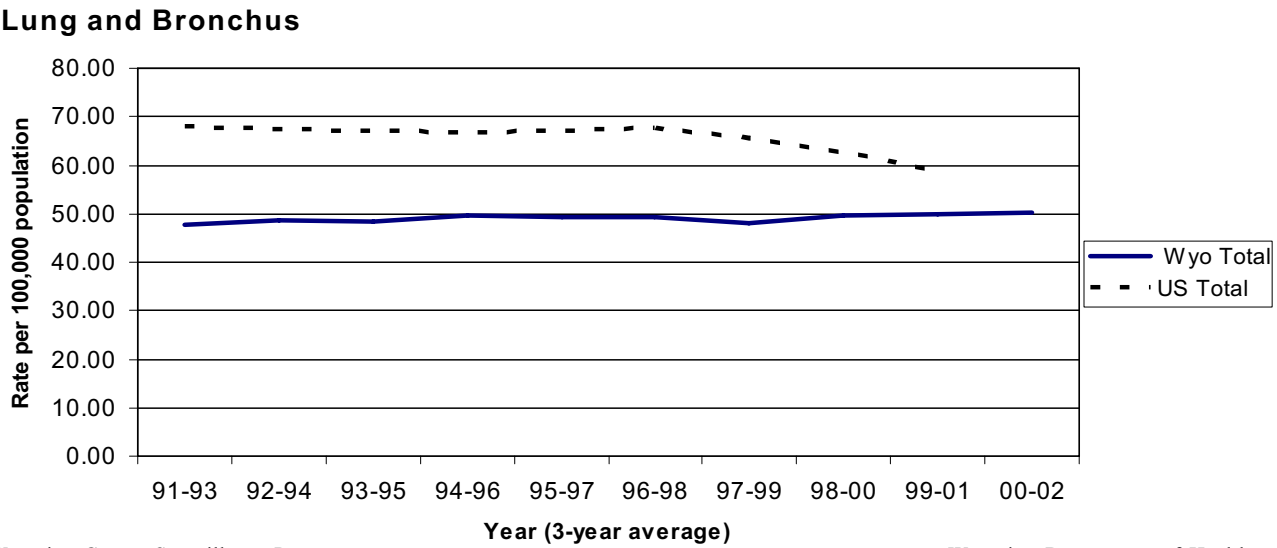
Lung cancer incidence and mortality rates in Wyoming males, females, and total population were all lower than the national rates. However, none of the rates were significantly different.

Incidence rates for lung cancer in Wyoming have been relatively steady since 1990. The national rate has been decreasing gradually since 1997.

The percentages at each stage of diagnosis were very similar to the percentages seen in 2001.

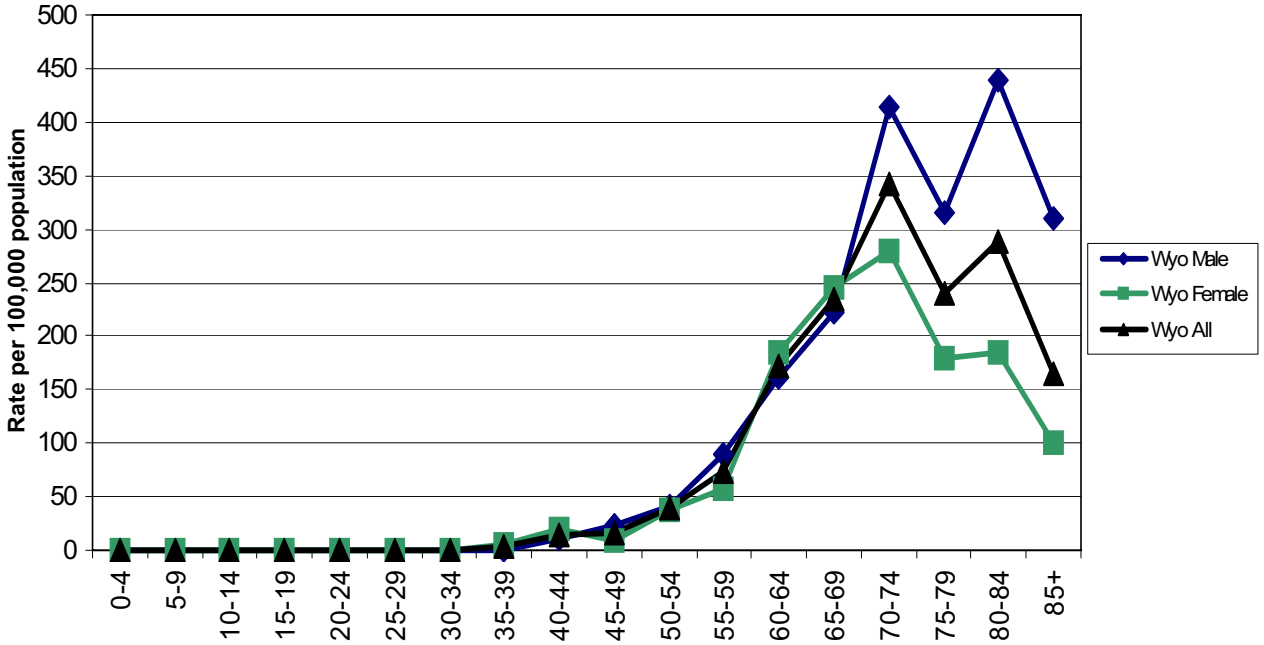
There were no signficant differences between CHD's and the state rate for incidence or mortality.

12-Year Incidence Trend



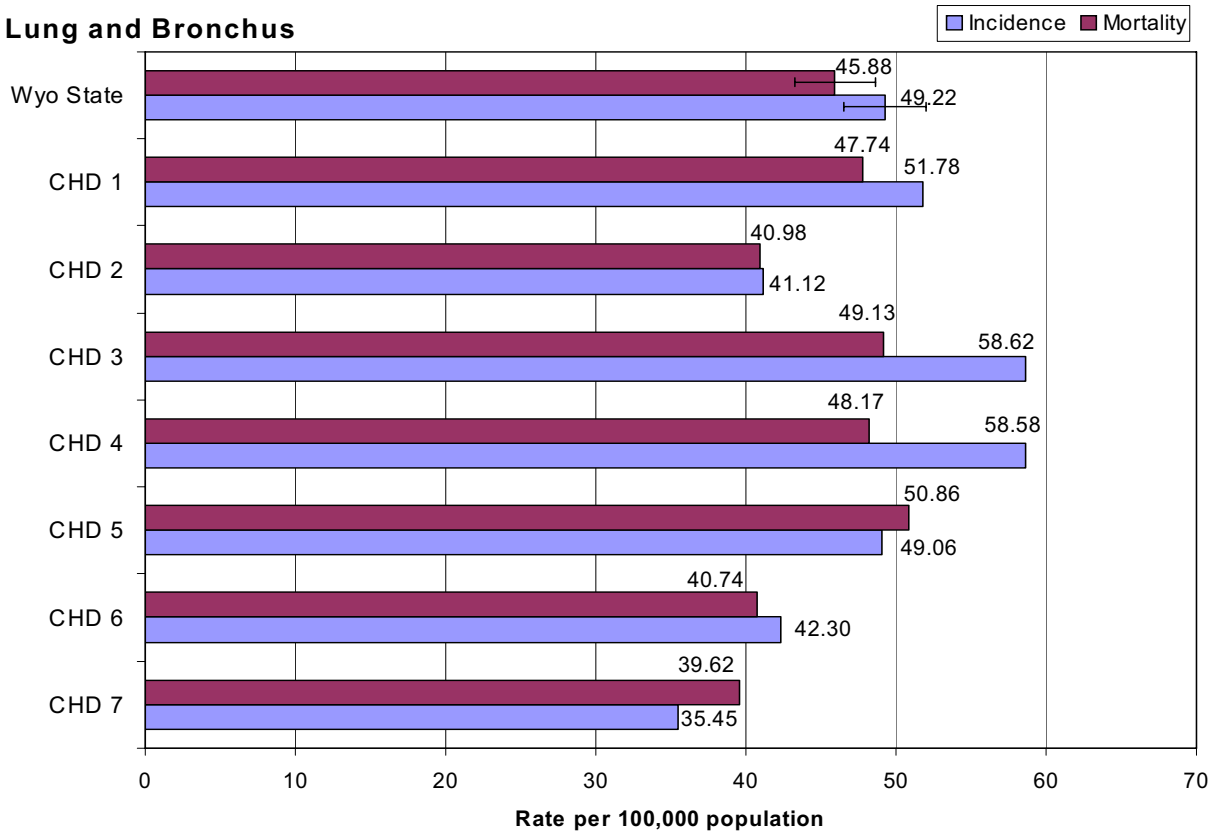
Age-Specific Incidence Rates, 2002

Lung and Bronchus



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002

Lung and Bronchus



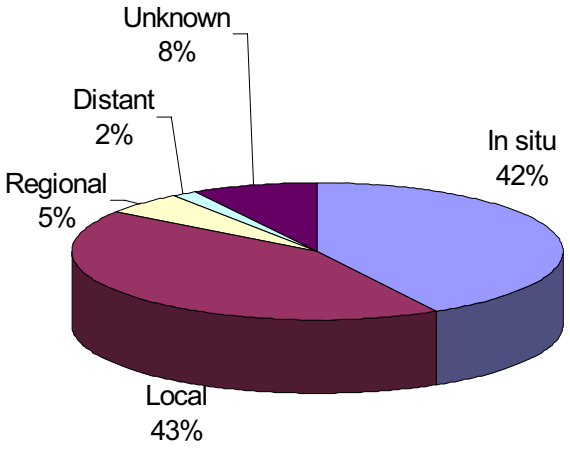
Melanoma (of the skin)

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	40	36	76
# In situ Cases	24	31	55
Wyo Incidence	17.0	14.0	15.4
US Incidence	26.2	17.8	21.2
# Cancer Deaths	10	6	16
Wyo Mortality	4.3	2.1	3.2
US Mortality	4.4	2.0	3.0

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



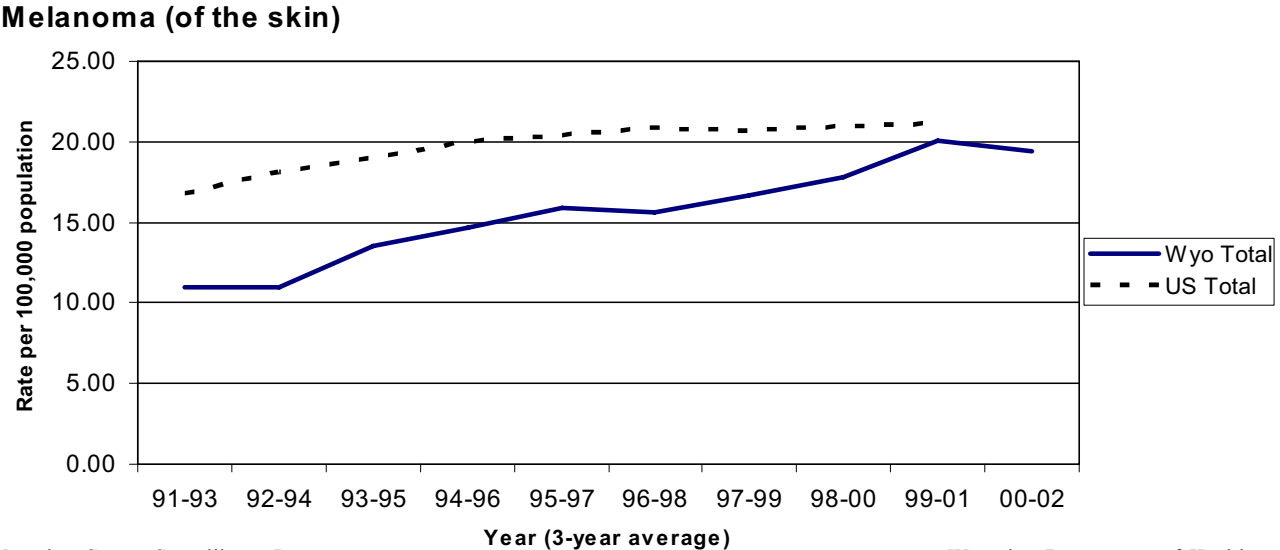
Incidence rates for melanoma of the skin in Wyoming for males, females, and total population were somewhat lower than the national rates, though not significantly. The mortality rates in Wyoming were basically the same as the national rates for all three groups.

The recent increasing trend in melanoma incidence for Wyoming residents seems to be tapering off in 00-02.

The percentage of cases diagnosed at the in situ stage increased significantly from 2001 (20%), while the percentage of cases diagnosed as unknown decreased significantly from 2001 (30%).

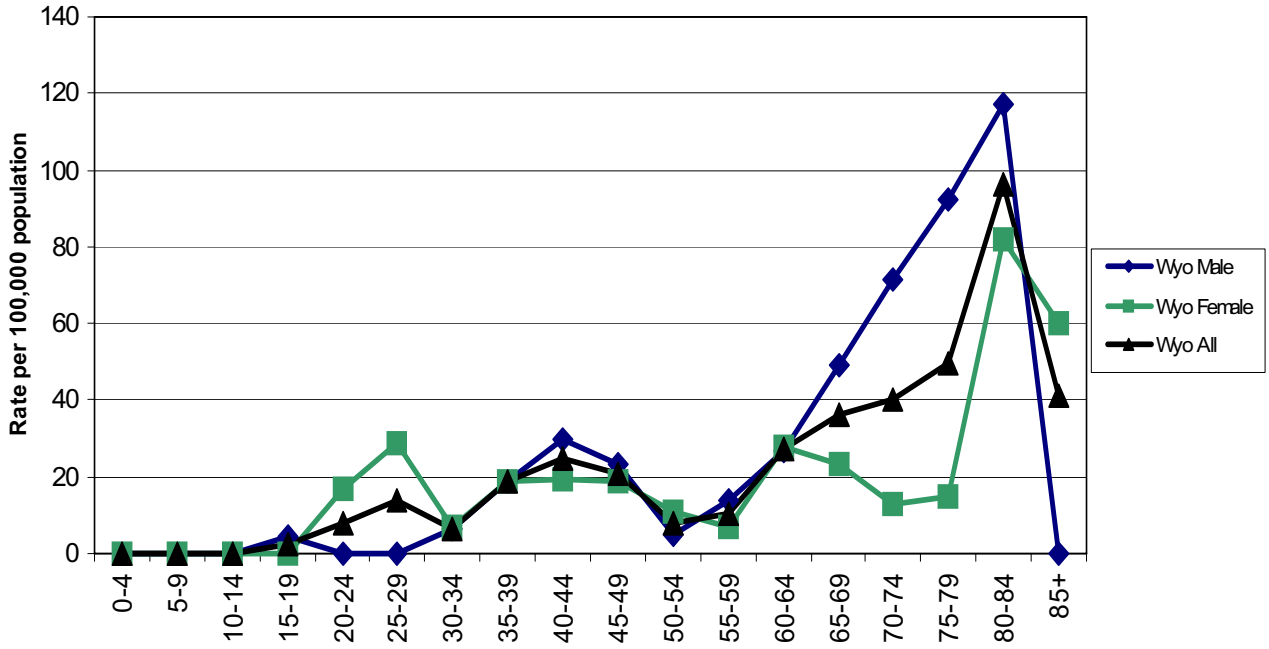
No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

12-Year Incidence Trend



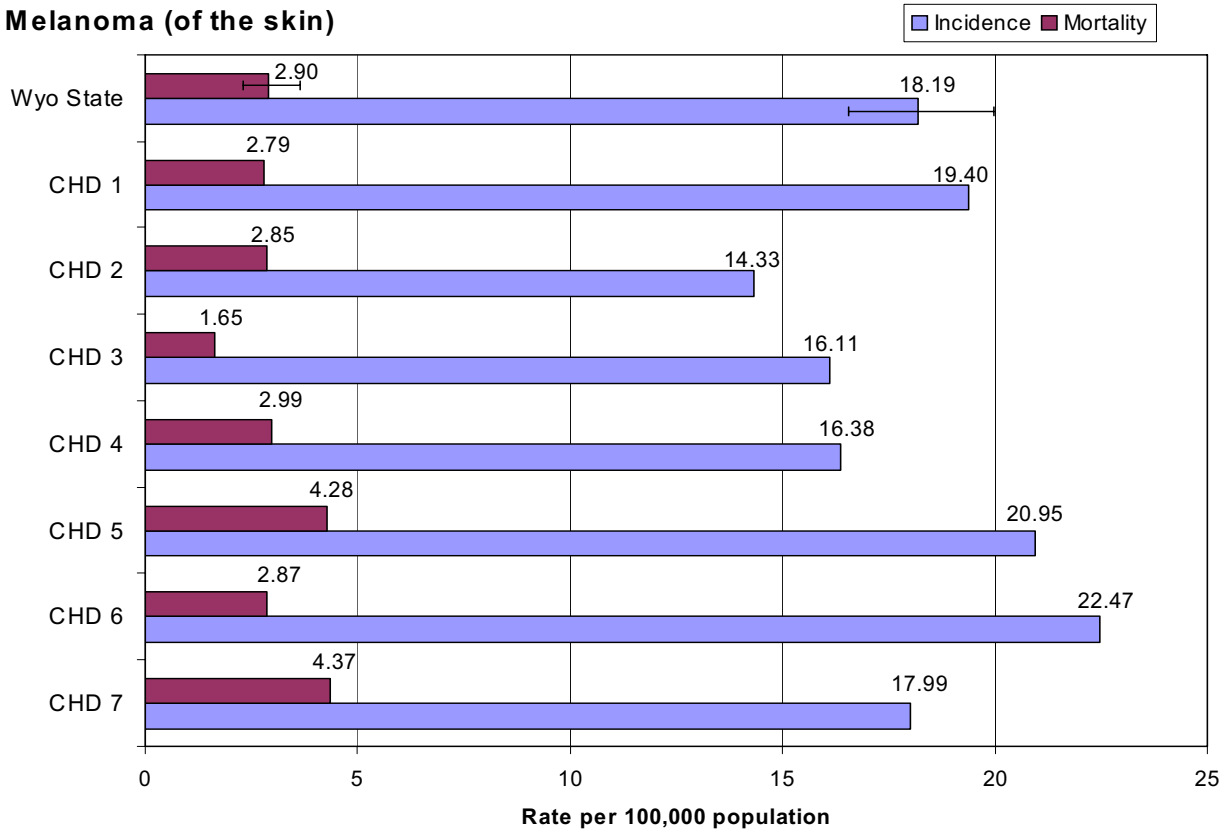
Age-Specific Incidence Rates, 2002

Melanoma (of the skin)



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002

Melanoma (of the skin)



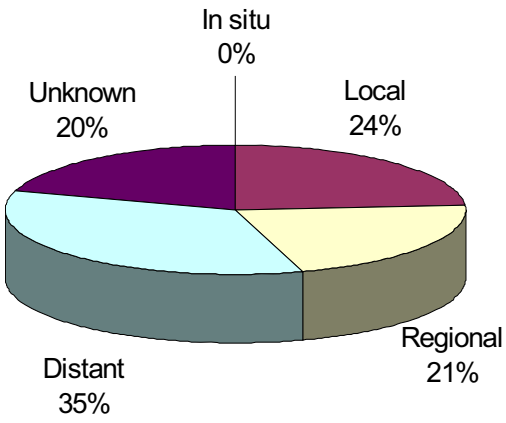
Non-Hodgkin Lymphoma

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	45	39	84
Wyo Incidence	19.1	14.7	16.6
US Incidence	23.8	16.1	19.6
# Cancer Deaths	15	21	36
Wyo Mortality	7.2	7.9	7.5
US Mortality	10.3	6.7	8.2

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



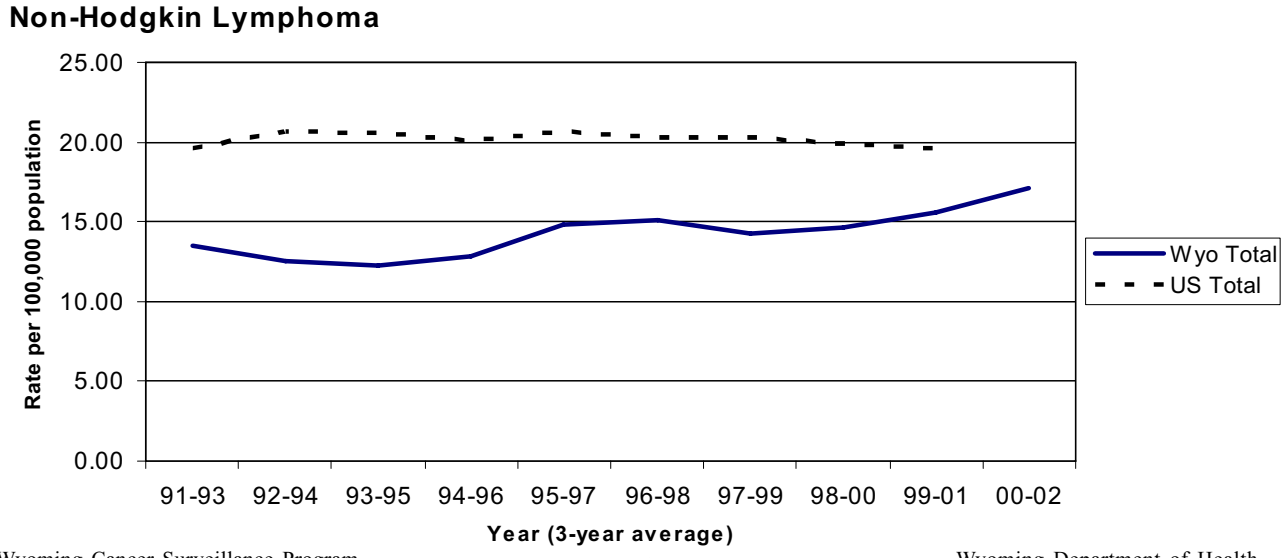
The incidence rate for males, females, and total populaiton in Wyoming for non-Hodgkin lymphoma were all lower than the national rate, though not significantly. The mortality rate for males and total population in Wyoming were lower than the national rates, while the mortality rate for females was higher than the national rate. None of these differences were statistically significant.

The 12-year incidence trend appears to be increasing again in 00-02 after a small decrease that began in 97-99.

The percentage of cases staged as distant decreased in 2002, although not significantly.

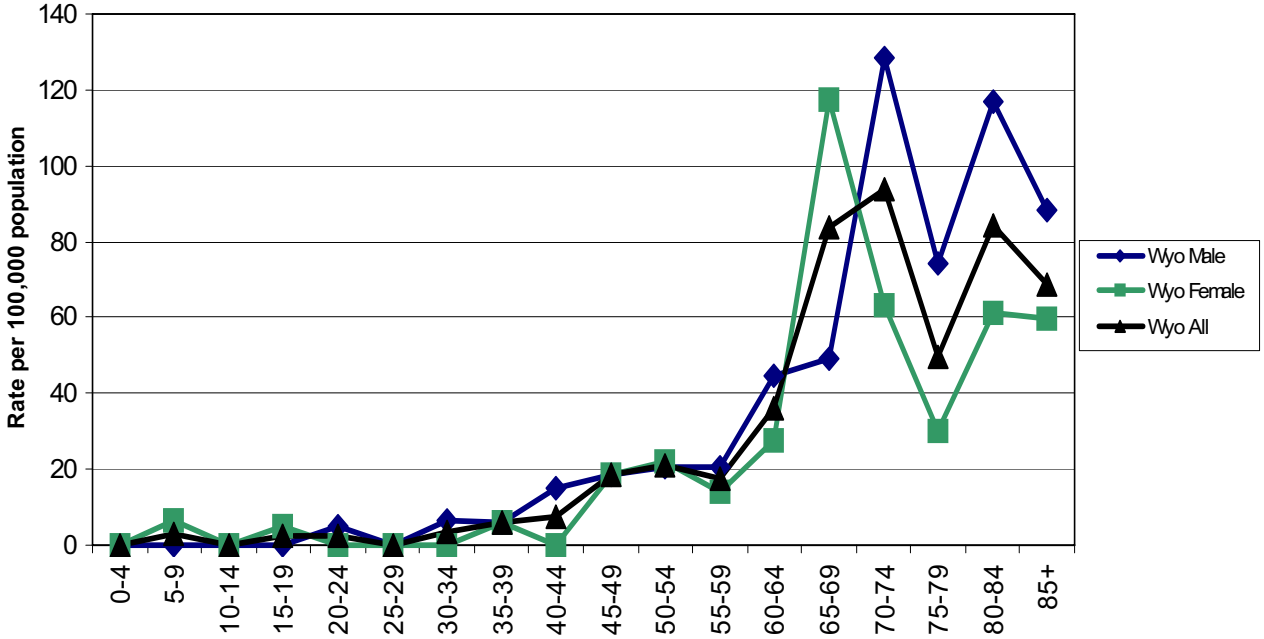
No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

12-Year Incidence Trend



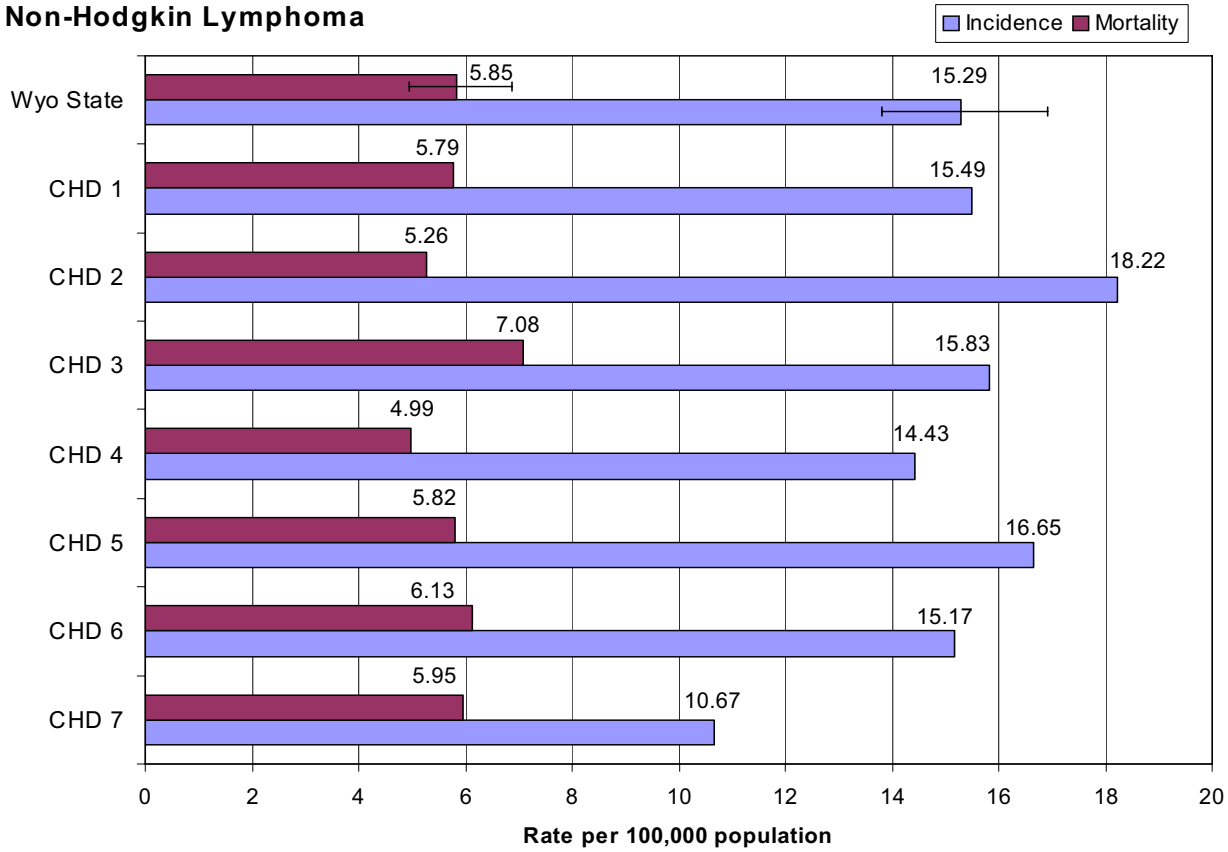
Age-Specific Incidence Rates, 2002

Non-Hodgkin Lymphoma



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002

Non-Hodgkin Lymphoma



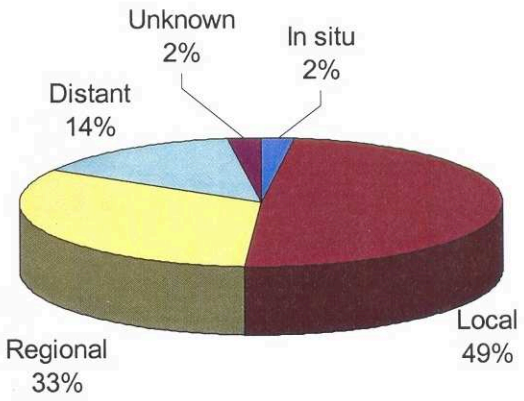
Oral Cavity and Pharynx

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	27	15	42
# In situ Cases	1	0	1
Wyo Incidence	11.4	5.6	8.4
US Incidence	14.7	6.4	10.2
# Cancer Deaths	4	6	10
Wyo Mortality	NC	2.2	2.0
US Mortality	3.9	1.5	2.6

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



Incidence rates for cancer of the oral cavity & pharynx in Wyoming were lower, though not significantly, than the national rates. The mortality rate for females was a little higher than the national rate, while the total population rate was a little lower.

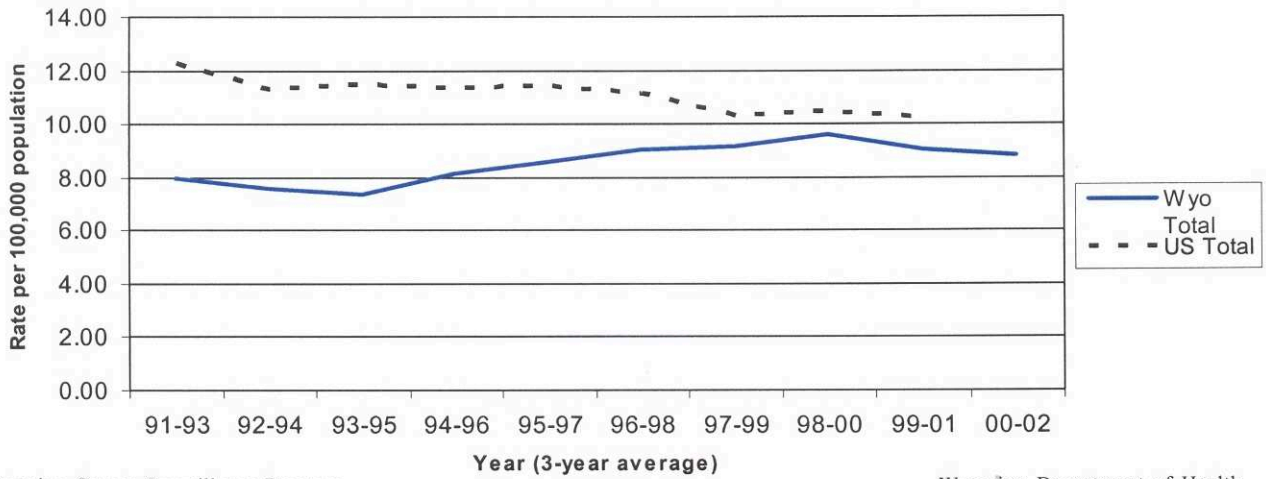
The decrease for Wyoming that started in 98-00 appears to have continued through 00-02. Nationally, cancer of the oral cavity and pharynx appears to have leveled off since 97.

More cases of cancer of the oral cavity and pharynx were staged as regional and local in 2002, though not significantly more.

No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

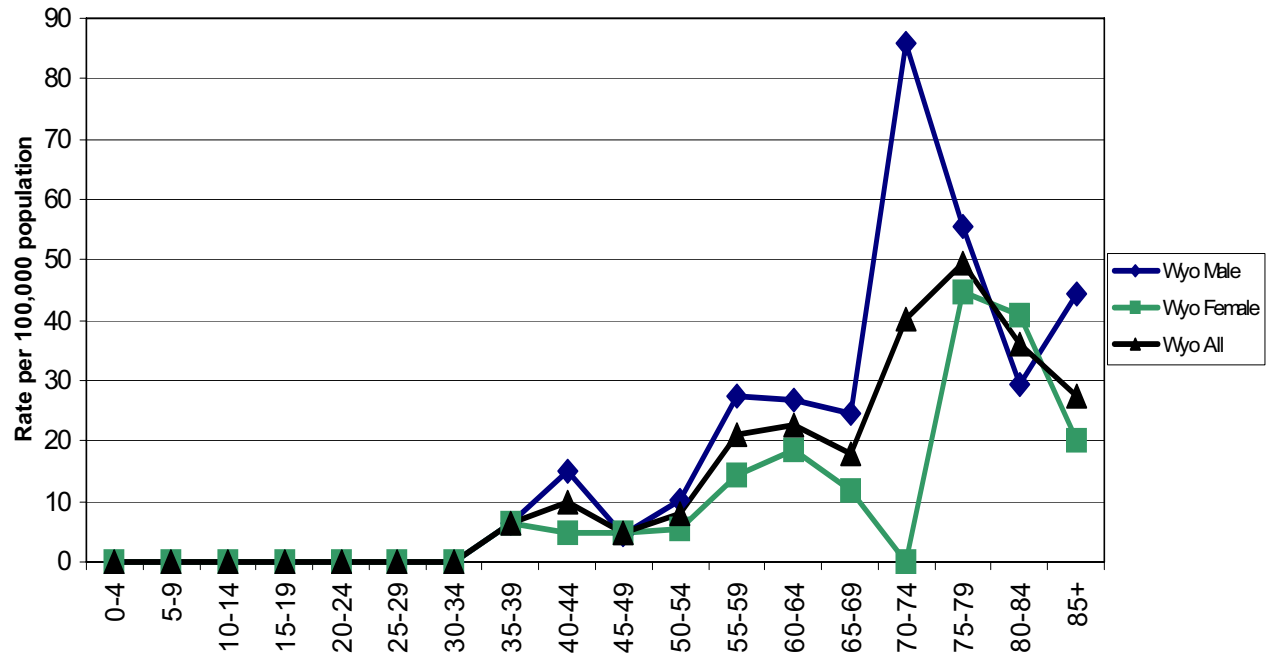
12-Year Incidence Trend

Oral Cavity and Pharynx



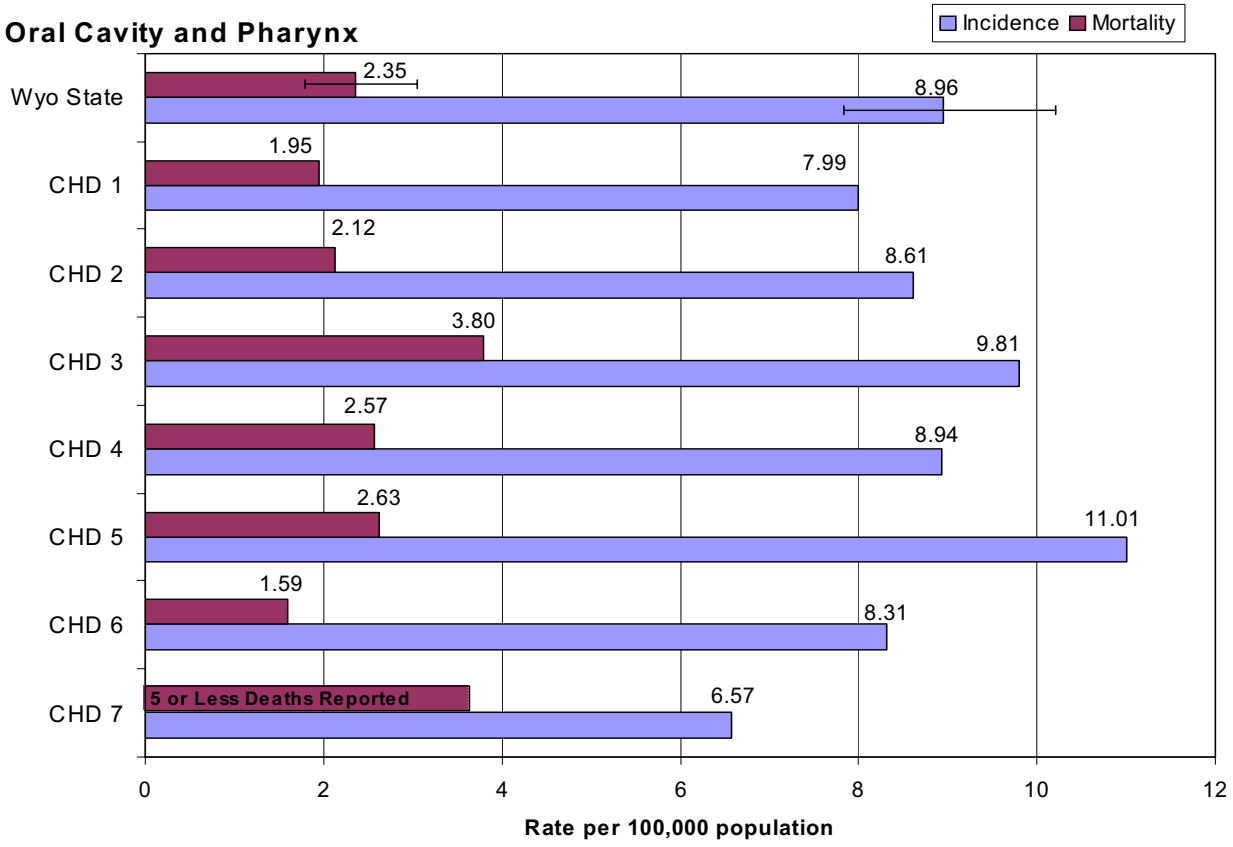
Age-Specific Incidence Rates, 2002

Oral Cavity and Pharynx



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002

Oral Cavity and Pharynx



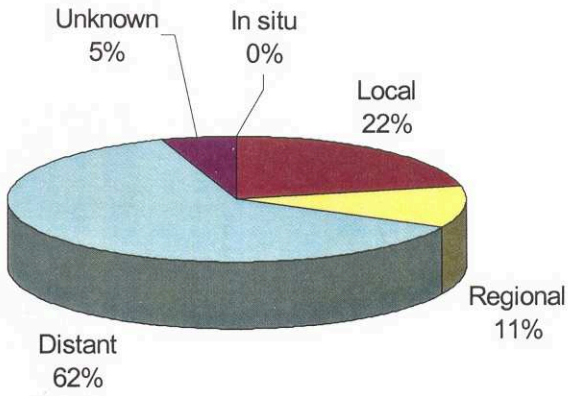
Ovary

Incidence and Mortality Summary

	Female
# Invasive Cases	37
Wyo Incidence	13.9
US Incidence	14.7
# Cancer Deaths	35
Wyo Mortality	13.0
US Mortality	9.3

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



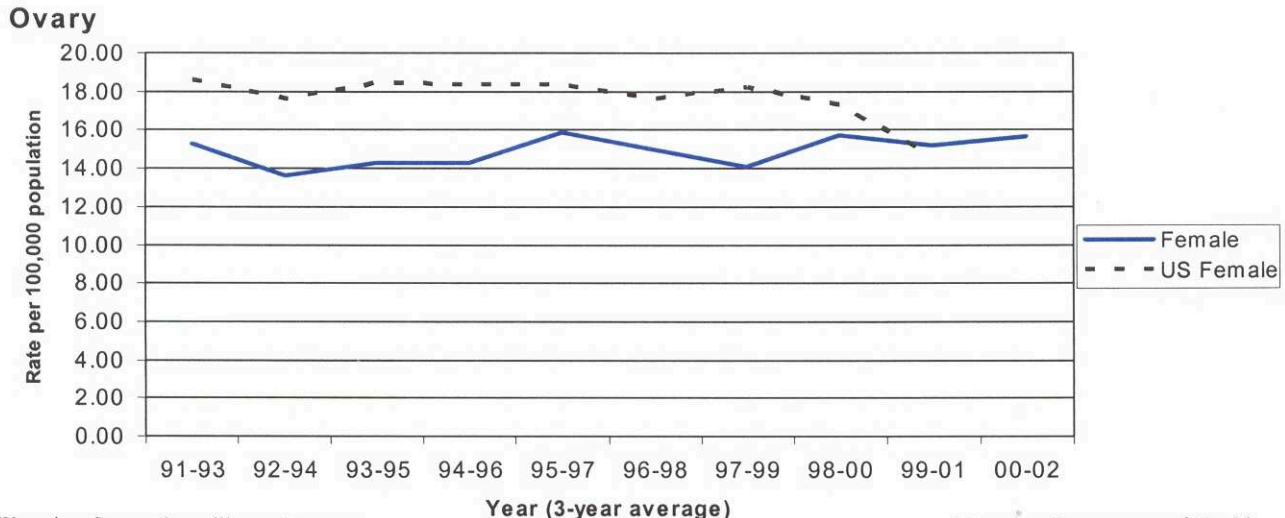
The incidence rate in Wyoming females for ovarian cancer was lower, while the mortality rate was slightly higher than the national rates. However, neither difference was significant.

The 12-year incidence trend shows a possible increase in 00-02 after a decrease in 99-01. The national rate appears to be decreasing since 1998.

Slighlty fewer cases of ovarian cancer were diagnosed at the distant stage in 2002 (62%) than in 2001 (66%). However this decrease is nonsignificant.

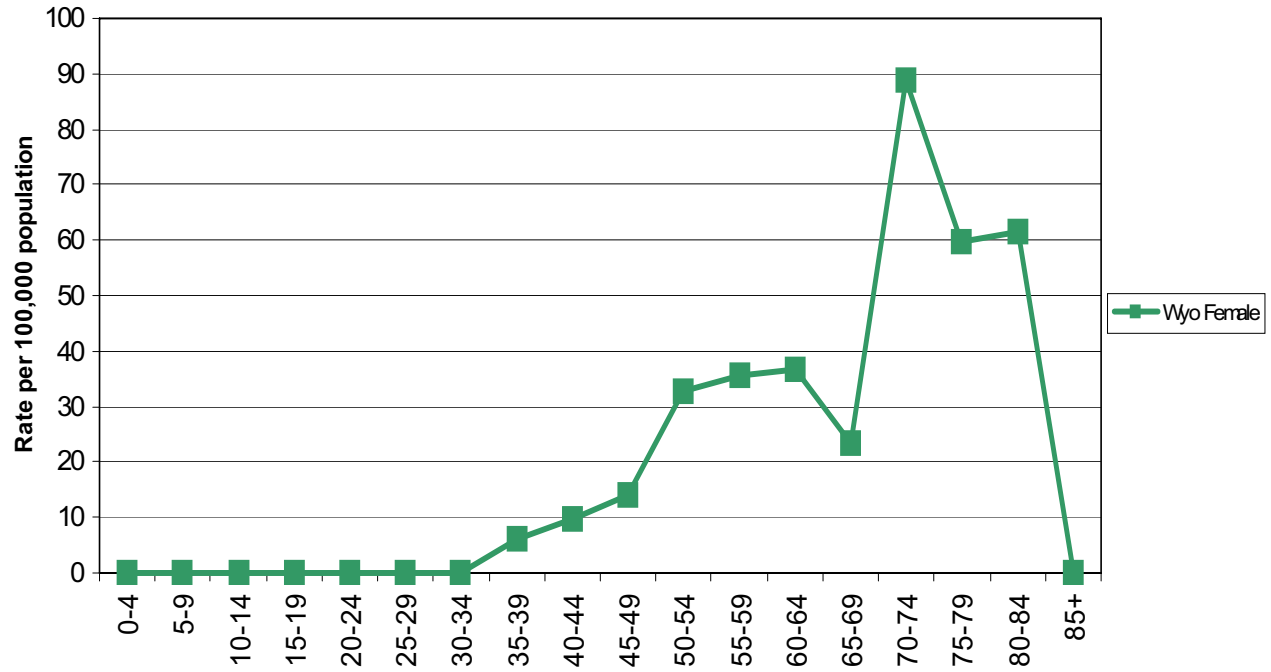
No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

12-Year Incidence Trend



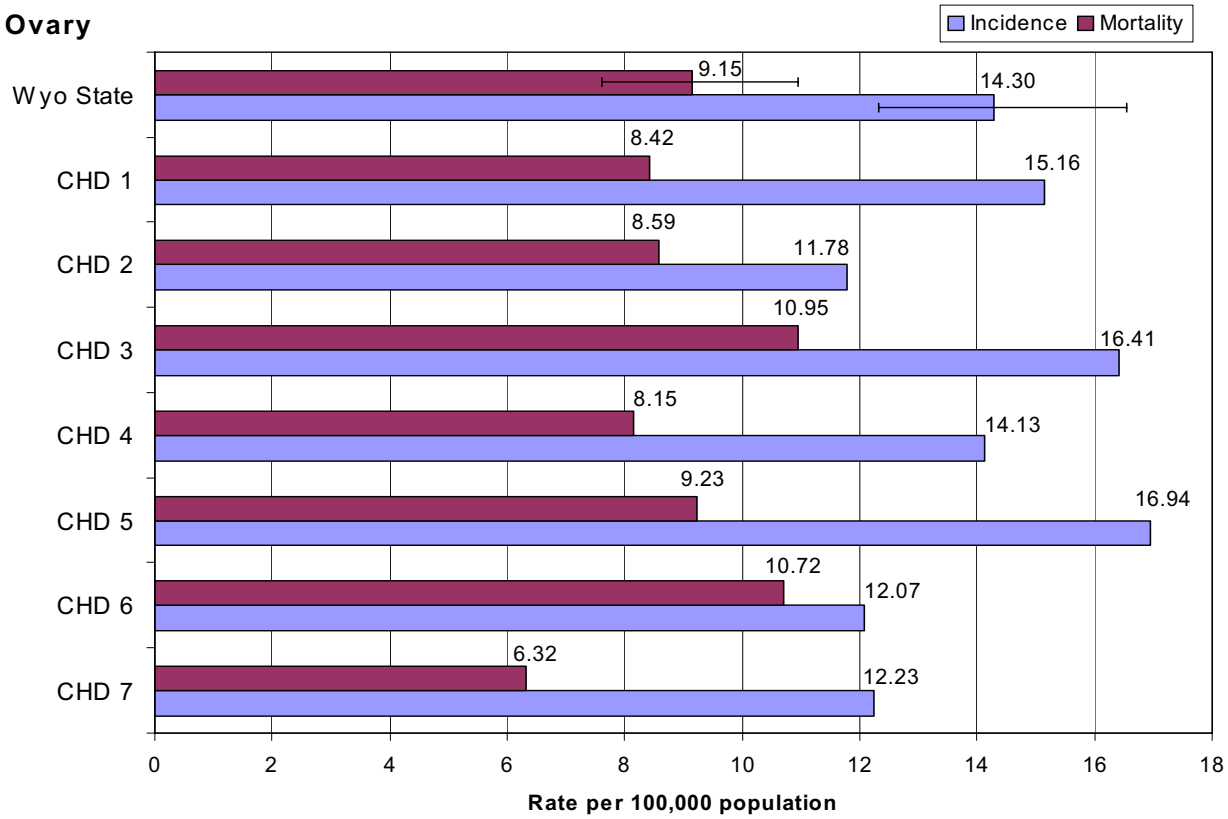
Age-Specific Incidence Rates - 2002

Ovary



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002

Ovary



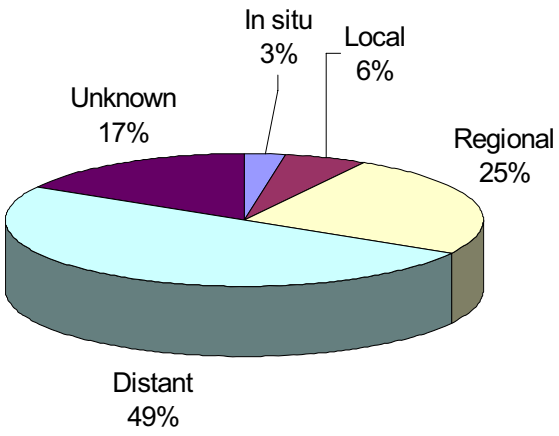
Pancreas

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	20	15	35
Wyo Incidence	8.2	5.6	6.8
US Incidence	12.2	8.9	10.3
# Cancer Deaths	25	16	41
Wyo Mortality	11.7	6.1	8.4
US Mortality	12.0	9.0	10.4

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



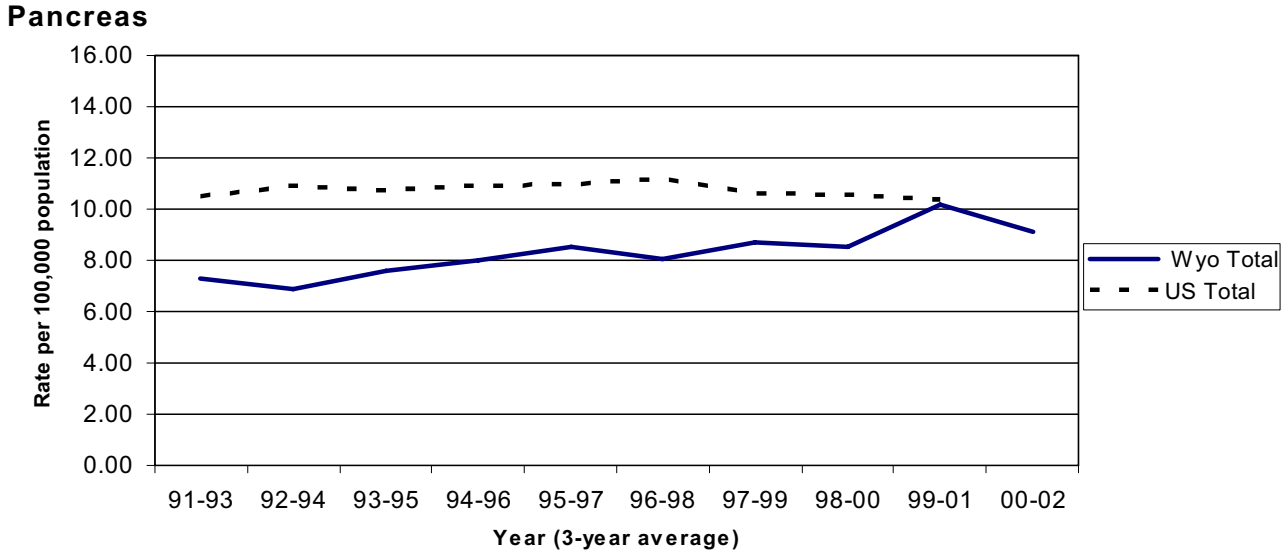
The incidence and mortality rates of cancer of the pancreas in Wyoming males, females, and the total population were all lower than the national rates. None of the differences were statistically significant.

The national trend has remained relatively unchanged over the past 12 years, while Wyoming's trend shows a possibe decrease in 00-02 after an increase that started in 98-00 .

The percentage of cases in each diagnosis stage were basically unchanged from 2001.

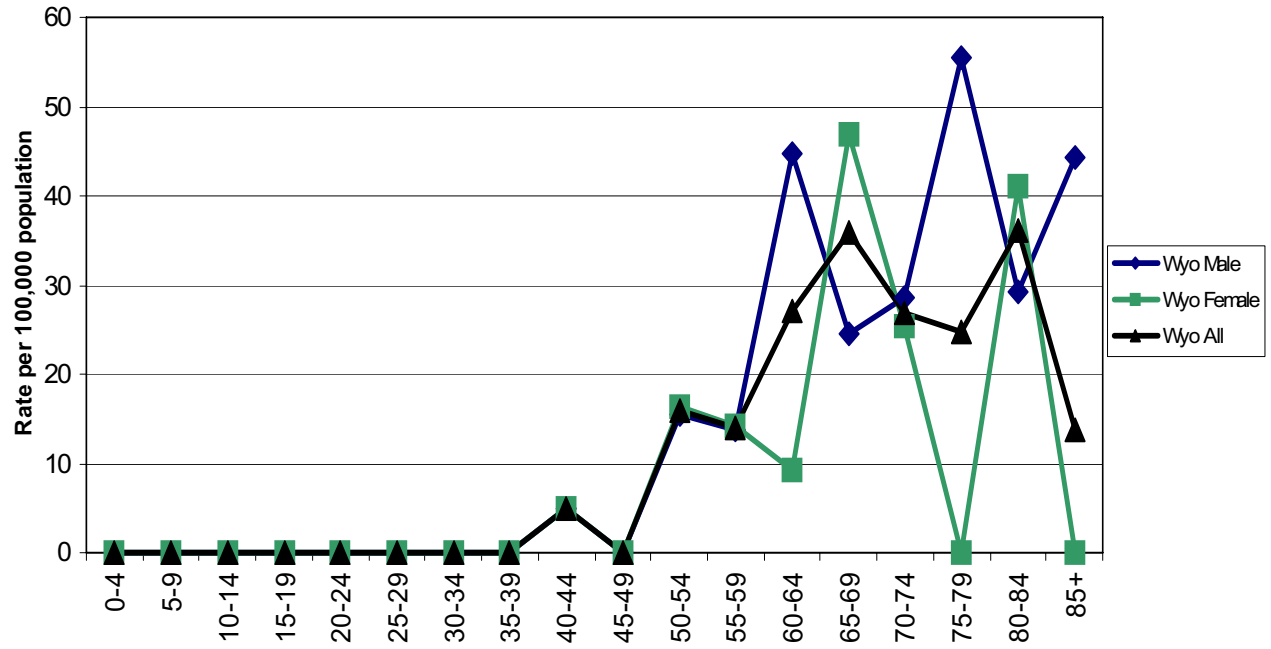
No statistically significant differences were found between the CHD's and state rates for incidence or mortality.

12-Year Incidence Trend



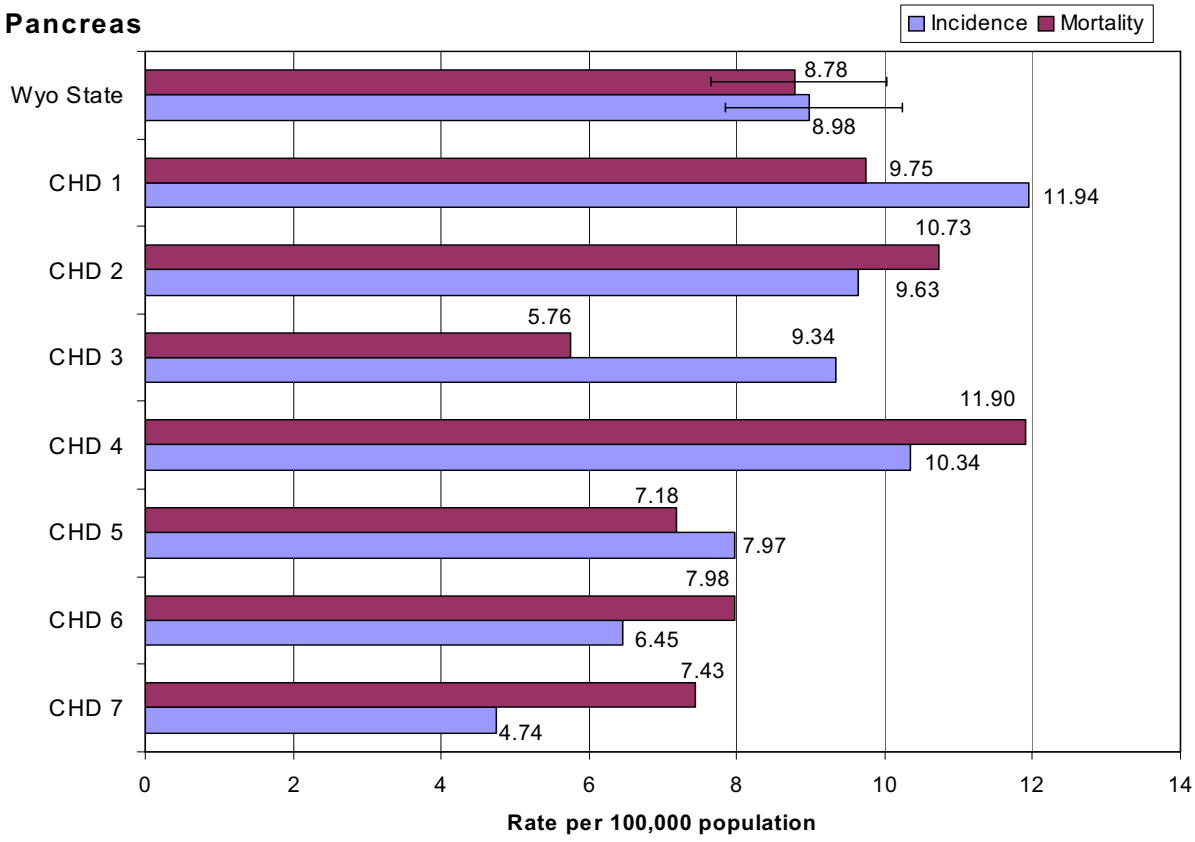
Age-Specific Incidence Rates, 2002

Pancreas



Cancer Health District Incidence and Mortality 5-Year Average, 1998-2002

Pancreas



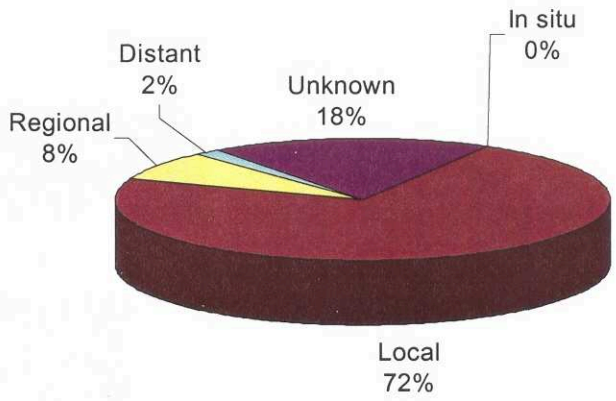
Prostate

Incidence and Mortality Summary

	Male
# Invasive Cases	390
Wyo Incidence	165.8
US Incidence	167.8
# Cancer Deaths	59
Wyo Mortality	31.5
US Mortality	26.7

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



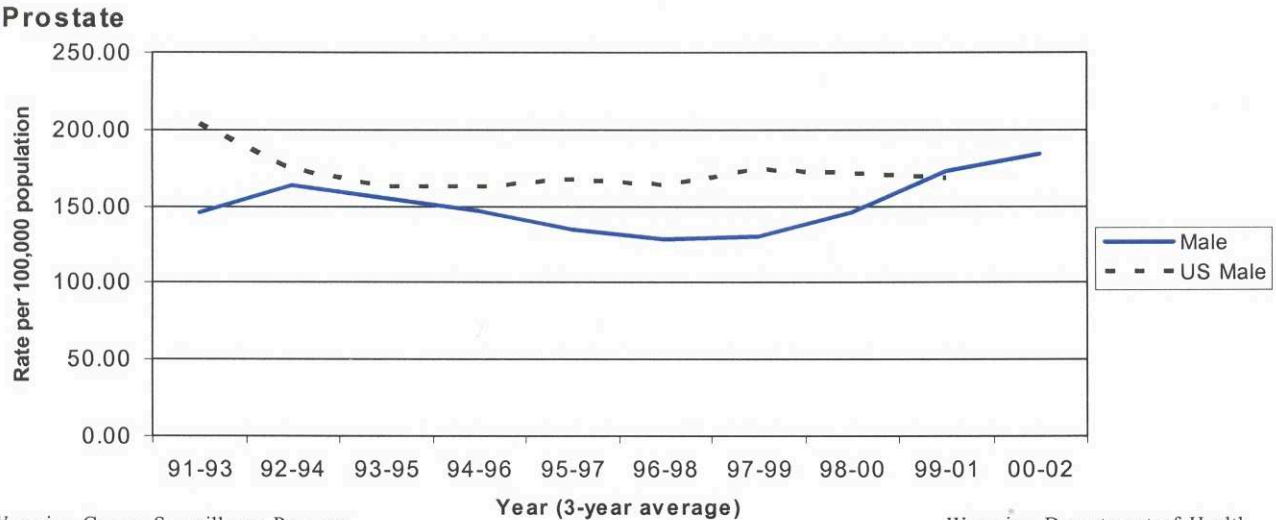
The incidence rate for prostate cancer in Wyoming males was almost the same as the national rate. The mortality rate in Wyoming males, while higher than the national rates, was not significantly different.

There appears to be a continuing upswing in prostate cancer incidence that started in 97-99 after several years of decline. The national rate has remained relatively steady for the last several years.

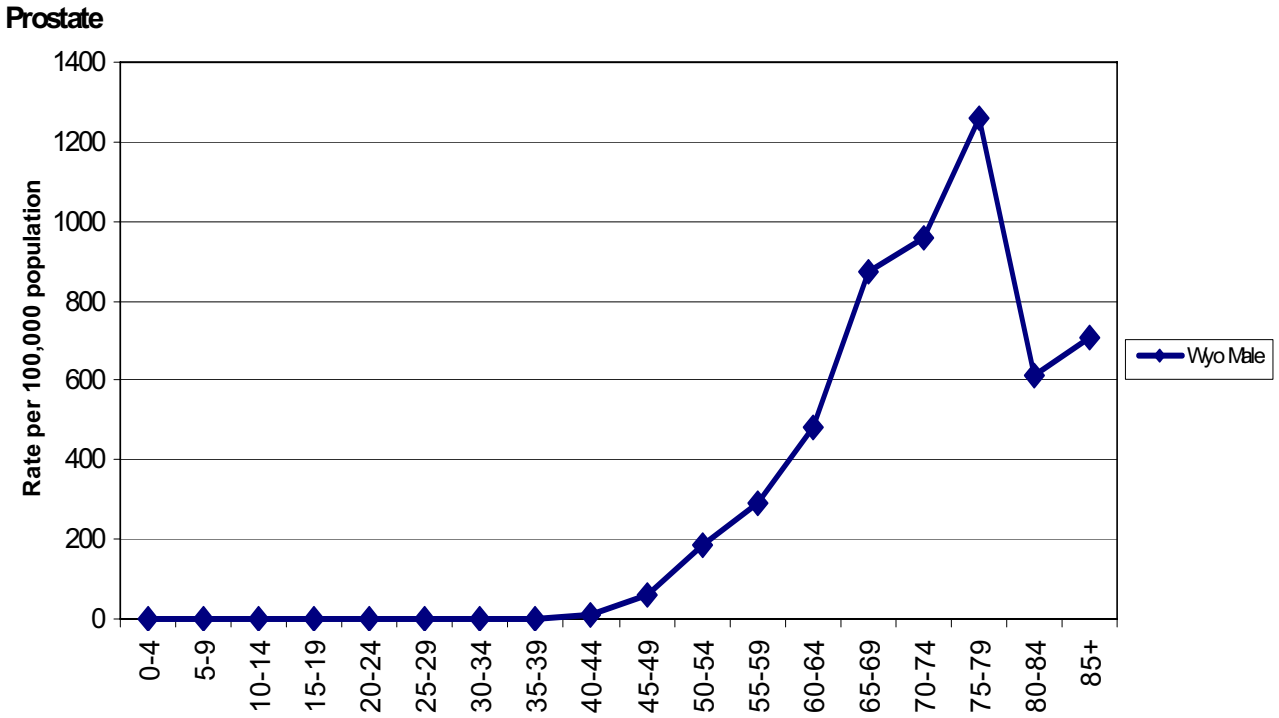
Significantly more cases of prostate cancer were diagnosed at the local stage in 2002 than in 2001 (61%), while significantly fewer cases were diagnosed as unknown in 2002 than in 2001 (29%).

The incidence rate in CHD 1 was significantly higher than the state incidence rate for the 5-year period. However, the incidence rates in CHD 5 and CHD 7 were significantly lower than the state rate for the 5-year period. There were no significant differences in mortality between the CHD's and the state rate.

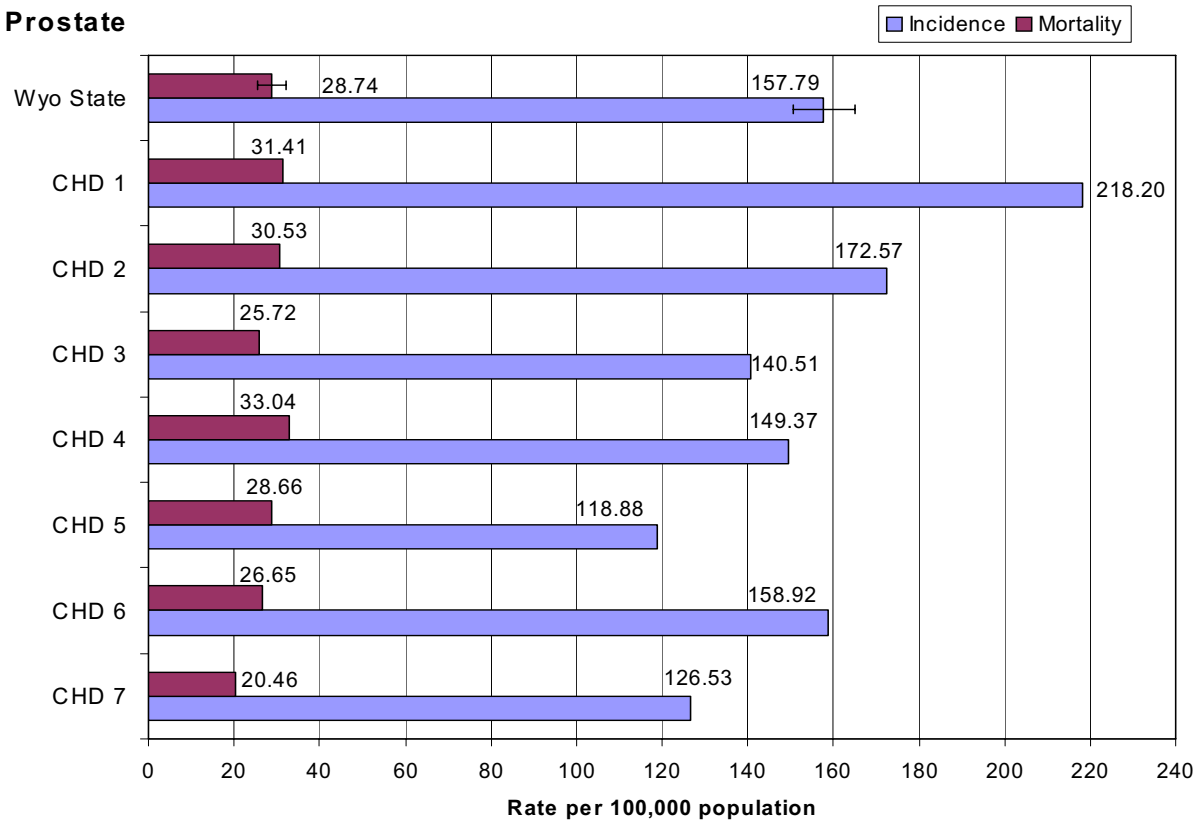
12-Year Incidence Trend



Age-Specific Incidence Rates - 2002



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002



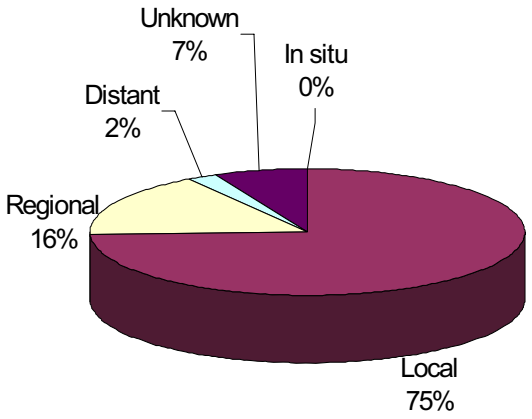
Thyroid

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	8	35	43
Wyo Incidence	3.2	13.3	8.3
US Incidence	4.4	12.2	8.3
# Cancer Deaths	0	2	2
Wyo Mortality	NC	NC	NC
US Mortality	0.5	0.5	0.5

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



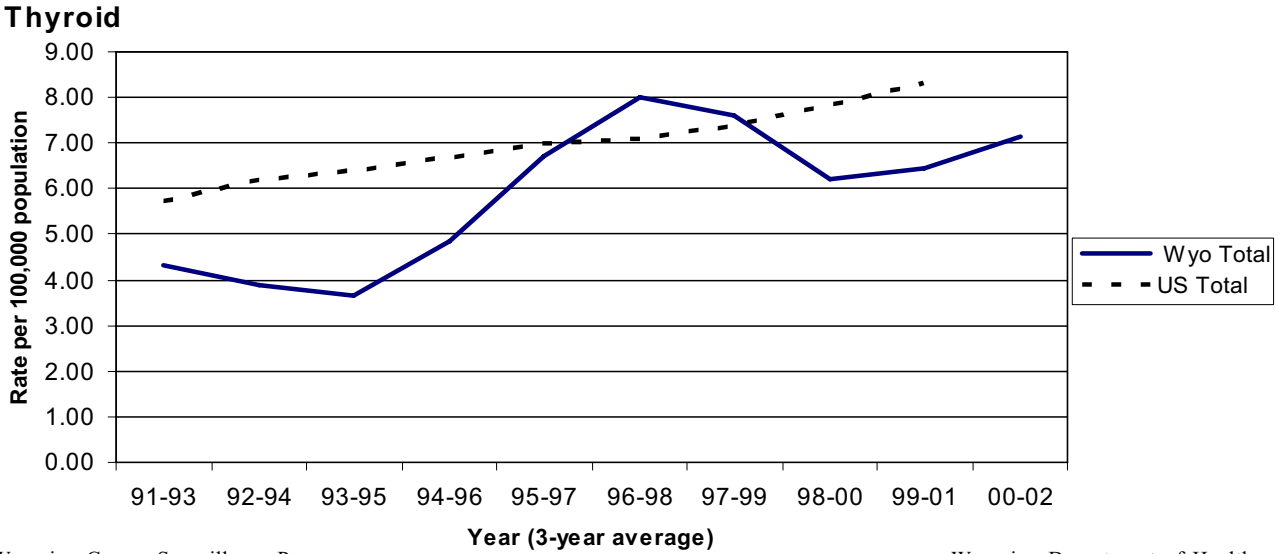
Incidence rates for thyroid cancer in Wyoming were slightly higher than the national rate for females, lower in males, and exactly the same as the total population. The differences in males and females were not statistically significant.

There appears to be an increasing trend for thyroid cancer in Wyoming starting in 98-00 through 00-02.

The percentage of cases diagnosed at the local stage was up from 65% in 2001, while the percentage of cases diagnosed as unknown was down from 19% in 2001. Neither change was significant.

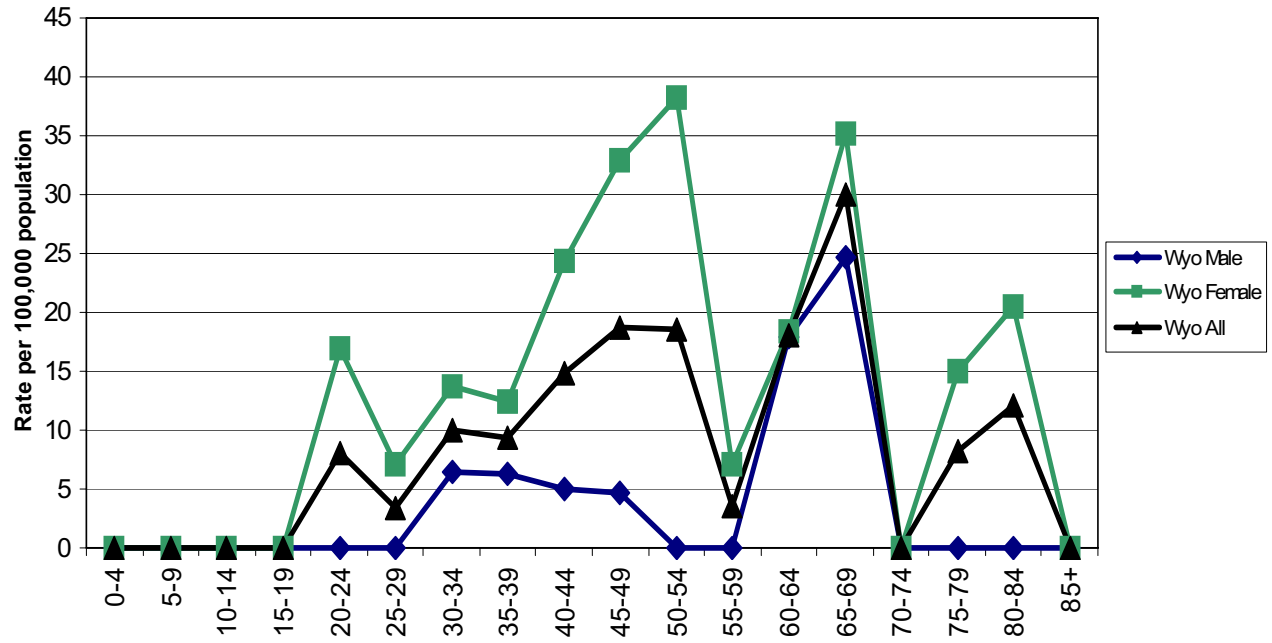
No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

12-Year Incidence Trend



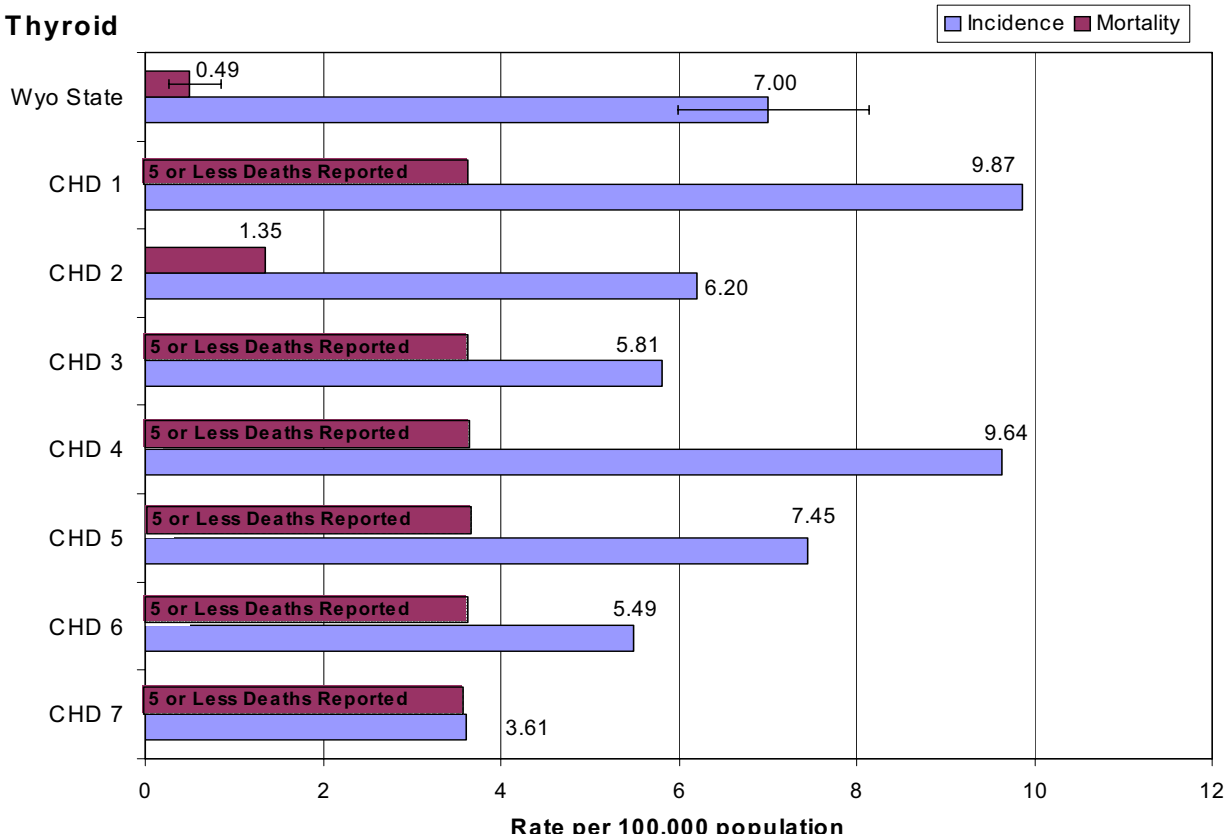
Age-Specific Incidence Rates, 2002

Thyroid



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002

Thyroid



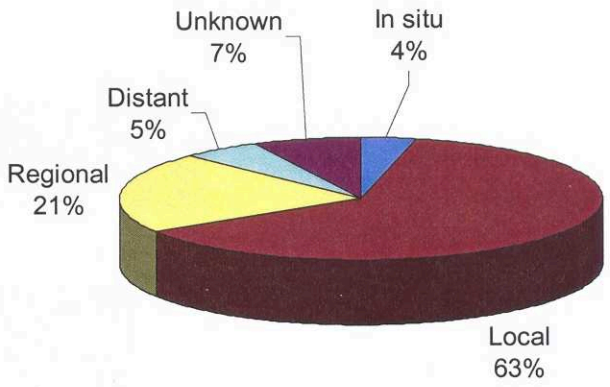
Uterine (Corpus Uteri & Uterus)

Incidence and Mortality Summary

	Female
# Invasive Cases	54
Wyo Incidence	19.9
US Incidence	25.6
# Cancer Deaths	11
Wyo Mortality	4.1
US Mortality	3.9

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



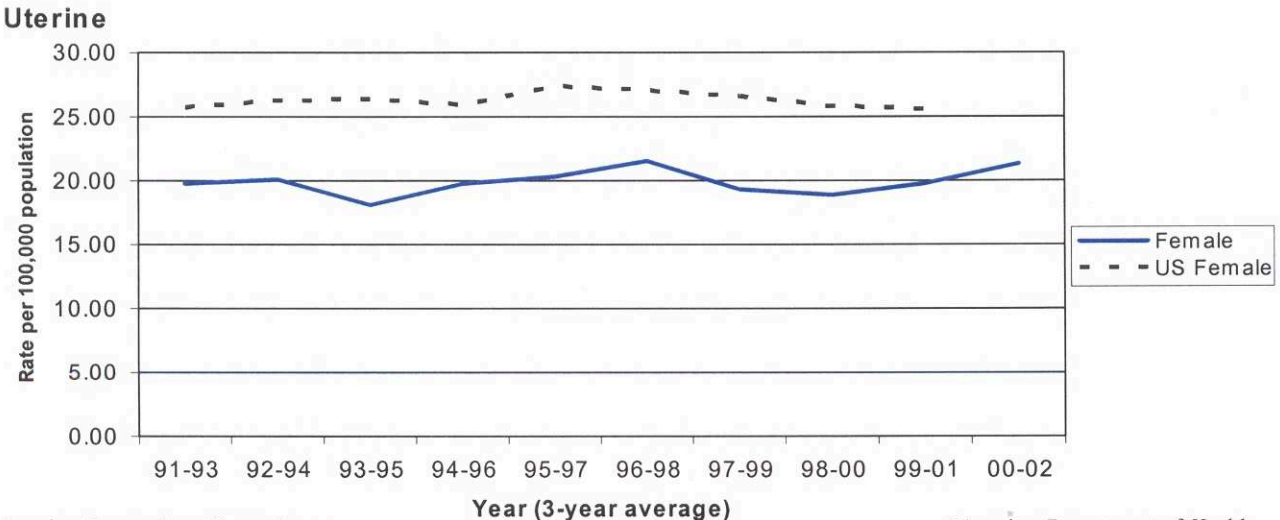
The incidence rate in Wyoming females for uterine cancer is lower than the national rate, while the mortality rate is slightly higher than the national rate; however, neither difference was statistically significant.

The decrease in incidence that started in 96-98 appears to have started to increase again in 00-02. The incidence trend for the nation has remained relatively stable.

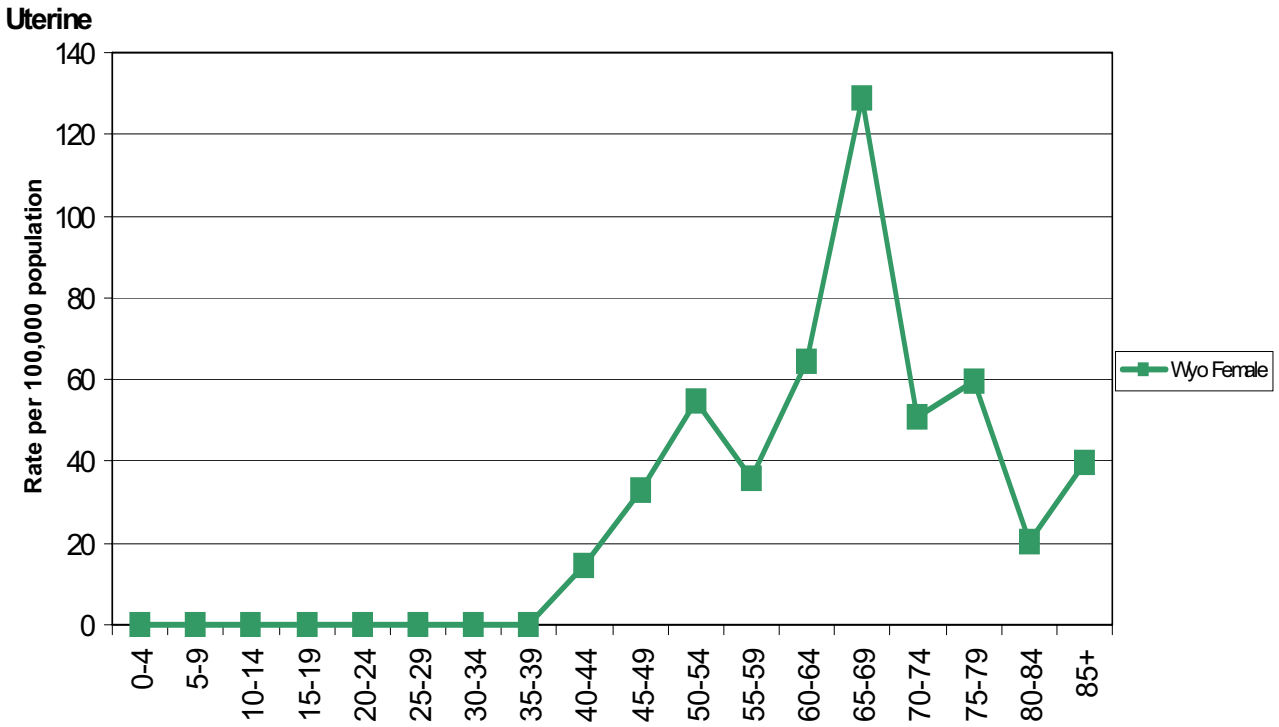
The percentage of cases diagnosed at each stage in 2002 was basically unchanged from 2001.

No statistically significant differences were found between the CHD's and state rate for incidence or mortality.

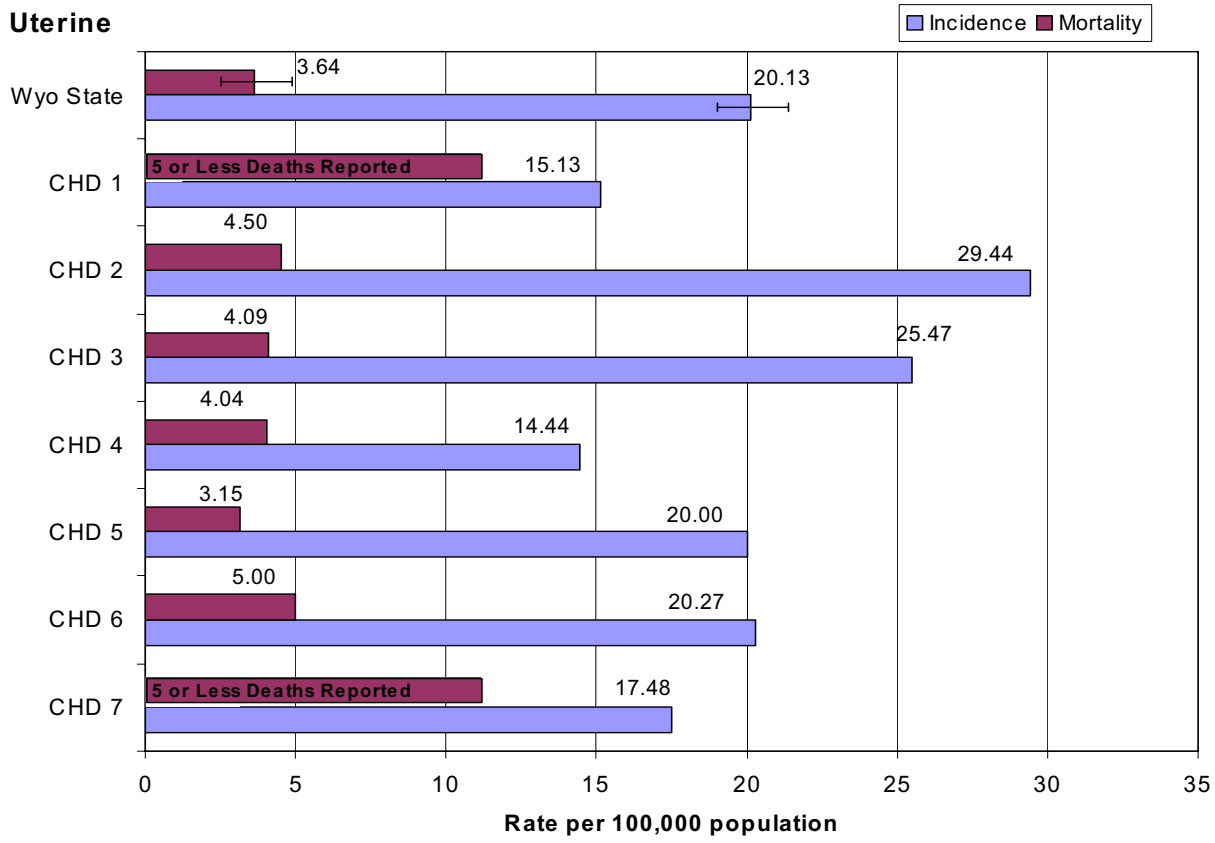
12-Year Incidence Trend



Age-Specific Incidence Rates - 2002



Cancer Health District Incidence and Mortality
5-Year Average, 1998-2002



Appendix A

References

Centers for Disease Control and Prevention. CDC Wonder. (http://www.cdc.gov)

Surveillance, Epidemiology, and End Results (SEER) Program Public-Use Data (1969-2001) (SEER*STAT,Version 5.3.1), National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2004.

Wyoming Department of Administration and Information, Economic Analysis Division. Wyoming State and County Population. (http://eadiv.state.wy.us/eahome.htm)

Surveillance, Epidemiology, and End Results (SEER) U.S. Population Data, National Cancer Institute (http://seer.cancer.gov/popdata/)

Previous to data year 1999, the Wyoming Cancer Surveillance Program (WCSP) performed age-adjustment of cancer mortality rates using the 1940 standard population and a 10-year age group, or the 1970 standard population using 5-year age groups. Starting with the data year 1999, WCSP began using the Year 2000 standard population with 5-year age groups to calculate cancer mortality and cancer incidence rates.

The decision to use 5-year age groups was made to keep WCSP data calculations "in-line" with the national cancer reports published through SEER and the National Cancer Institute. The 5-year age group also enables cancer prevention programs to use Wyoming reports (e.g., Vital Records) as printed versus requesting specially calculated rates.

"Age-adjusted rates should be used for comparative purposes only and should not be interpreted as the absolute risk of the disease or death." As can be seen in Chart A (below) and Chart B, (following page), the change in standard population affects the magnitude of the age-adjusted rates but not the trends of the rates. In general, the age-adjusted rate is only appropriate to track trends over time or to make comparisons among groups using the same population standard.

Chart A:

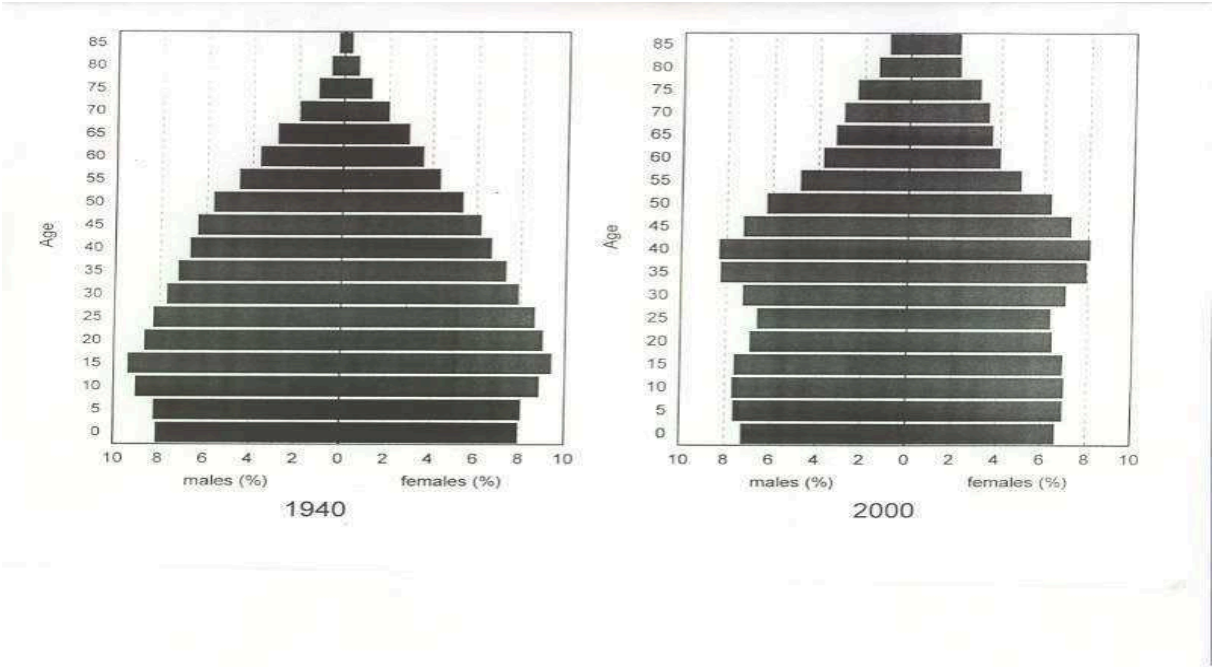
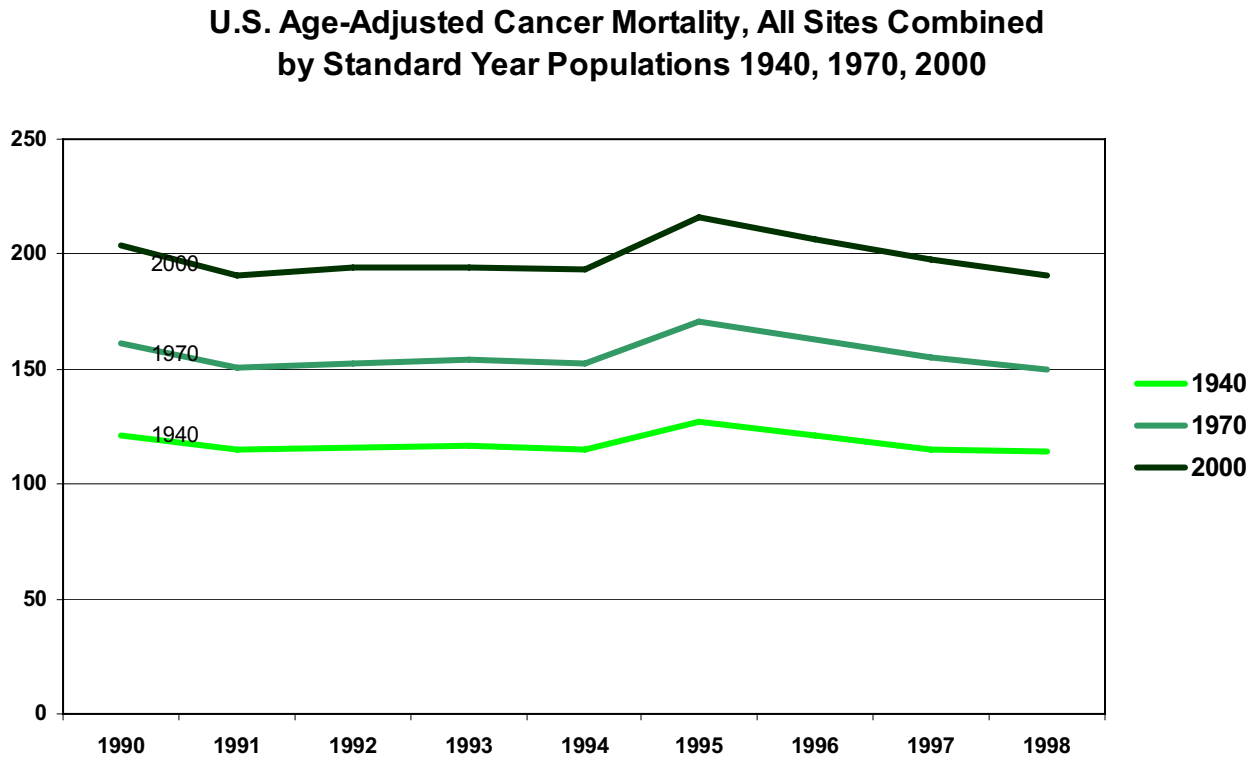


Chart B:


U.S. Age-Adjusted Cancer Mortality, All Sites Combined
by Standard Year Populations 1940, 1970, 2000
250
200
150
100
50
0
2000
1970
1940
1990
1991
1992
1993
1994
1995
1996
1997
1998
1940
1970
2000